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Design Defect Liability: In Search of a Standard of Responsibility

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DESIGN DEFECT LIABILITY: IN SEARCH OF A STANDARD OF RESPONSIBILITY

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INTRODUCTION

Responsibility[1] for the consequences of our own actions and occasionally for the actions of others seems to have been largely forgotten as a foundation for governing conduct. This Article advocates re-emphasizing responsibility in one important area, that of manufacturer[2] liability for product design. To that end, I

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1. The term "responsibility" has many different meanings. Black's Law Dictionary defines it as "[t]he state of being answerable for an obligation, and includes judgment, skill, ability and capacity. . . . The obligation to answer for an act done, and to repair or otherwise make restitution for any injury it may have caused." BLACK'S LAW DICTIONARY 1179 (5th ed. 1979). It includes the elements of reliability and trustworthiness. *See* WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 1005 (1987). Of course, responsibility in a moral or political sense is more difficult to define than the legal sense in which the term is used in this Article. For two excellent discussions of the larger role that responsibility should play in our tort system, see Leslie Bender, *Feminist (Re)Torts: Thoughts on the Liability Crisis, Mass Torts, Power, and Responsibilities*, 1990 DUKE L.J. 848, 895-908, and Timothy T. Lytton, *Responsibility for Human Suffering: Awareness, Participation, and the Frontiers of Tort Law*, 78 CORNELL L. REV. 470 (1993).

2. Using the term "manufacturer" implies similarities in all manufacturers when their only real similarity is the manufacture and distribution of some product. When we hear the word "manufacturer," we think of companies with employment rolls in the thousands and very sophisticated design, engineering, manufacturing and marketing systems. Not every manufacturer, however, is General Motors Corporation. This Article uses the term "manufacturer" to include any entity that makes a product for consumption by the public and recognizes that the vast majority of product producers are not monolithic entities but are of much more moderate character.

When referring to manufacturers throughout this Article, I use personal prónouns, i.e., "he," "she" or "they." Personalizing these companies serves a purpose. Identifying a company as a person assigns qualities to it that only thinking, feeling humans can have. These qualities include the ability to make value judgments with integrity, honesty, morality, and responsibility. To forget that corporations

propose the highest standard of conduct by which to judge product manufacturers' design decisions. The standard I propose is higher than merely reasonable, prudent conduct and is not the allegedly "strict" liability frequently imposed. The standard this Article proposes reflects an emphasis on responsible conduct in light of the special relationship of trust that exists between manufacturers and their customers.

During the last four decades, courts have made great strides in overturning ancient barriers to injured claimants' recovery in products liability actions. Courts have accomplished this by shifting away from rigid negligence and contract-based liability systems to a system of strict tort liability.[3] Critics of the current liability system would disagree with the characterization of those changes as "strides" because that word implies positive achievements.[4] The

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are nothing more than the humans who run them is to ignore that they are capable of making all of the conscious choices about how to organize and structure their "lives" that each of us does: decisions about the nature of their conduct, the quality of their work, how they want to be respected and perceived, and the real effect of their decisions on others.

3. Many scholars have written on the evolution of products liability, its history and its purposes. Some of the most renowned examples of this scholarship, which were instrumental in forging the changes alluded to and discussed throughout this Article are: Francis H. Bohlen, *Liability of Manufacturers to Persons Other Than Their Immediate Vendees*, 45 L.Q. REV. 343 (1929); Fleming James, Jr., *Products Liability*, 34 TEX. L. REV. 192 (1955); W. Page Keeton, *Products Liability—Some Observations about Allocation of Risks*, 64 MICH. L. REV. 1329 (1966); Dix. W. Noel, *Manufacturer's Negligence of Design or Directions for Use of a Product*, 71 YALE L.J. 816 (1962); Dix. W. Noel, *Manufacturers of Products—The Drift Toward Strict Liability*, 24 TENN. L. REV. 963 (1957); William L. Prosser, *The Assault on the Citadel (Strict Liability to the Consumer)*, 69 YALE L.J. 1099 (1960); William L. Prosser, *The Fall of the Citadel (Strict Liability to the Consumer)*, 50 MINN. L. REV. 791 (1966); and Richard G. Wilson, *Products Liability: The Protection of the Injured Person*, 43 CAL. L. REV. 614 (1955).

For a discussion of the goals strict products liability was intended to achieve, see *infra* notes 26-38 and accompanying text. For a discussion of the history of RESTATEMENT (SECOND) OF TORTS § 402A (1965) [hereinafter RESTATEMENT § 402A], which is the culmination of some of this scholarship and the foundation for modern strict products liability, see *infra* notes 47 to 59 and accompanying text.

4. Even early on there were many opponents of the movement toward strict liability for product-related injures. *See, e.g.*, Marcus L. Plant, *Strict Liability of Manufacturers for Injuries Caused by Defects in Products—An Opposing View*, 24 TENN. L. REV. 938 (1957).

Most of the criticism has come in the last two decades by those who perceive the changes in standards of liability as going too far toward a system of pure wealth redistribution that promotes neither safety nor quality in product manufacture and neither economic efficiency nor wealth maximization. *See generally* WIL-

American Law Institute (ALI) recently completed a study on the current state of products liability law which thoroughly discussed the bases of the insurance crisis[5] of the 1980s and offered a general critique of the products liability system.[6] The ALI Reporters' Study, as it is known, met with much criticism.[7] However, because

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LIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW (1987); Richard A. Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29 (1972); Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980).

5. The existence of the "insurance crisis" and its causes are the subject of some debate. *See* Scott E. Harrington, *Liability Insurance: Volatility in Prices and in the Availability of Coverage*, *in* TORT LAW AND THE PUBLIC INTEREST, 47-49 (Peter H. Shuck, ed. 1991). *Compare* PETER W. HUBER, LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES (1988) and George L. Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521, 1566 (1987) *with* Steven P. Croley & Jon D. Hanson, *What Liability Crisis? An Alternative Explanation for Recent Events in Products Liability*, 8 YALE J. ON REG. 1 (1991).

Scholars and other observers of the current products liability system seem to agree generally on the need for reform. *See generally* W. KIP VISCUSI, REFORMING PRODUCTS LIABILITY 1-13 (1991); James A. Henderson, Jr. & Aaron D. Twerski, *Stargazing: The Future of American Products Liability Law*, 66 N.Y.U. L. REV. 1332 (1991) [hereinafter Henderson and Twerski, *Stargazing*]; George L. Priest, *The Invention of Enterprise Liability: A Critical History of the Intellectual Foundations of Modern Tort Law*, 14 J. LEGAL STUD. 461 (1985).

State legislatures have been instrumental in bringing about certain pro-defendant changes including, for example, statutes of repose, product misuse and alteration defenses, and rebuttable presumptions of no defect with proof of compliance with governmental regulations or industry practice. *See generally* Joseph Sanders & Craig Joyce, *"Off to the Races": The 1980s Tort Crisis and the Law Reform Process*, 27 HOUS. L. REV. 207 (1990); Aaron D. Twerski, *Seizing the Middle Ground Between Rules and Standards in Design Defect Litigation: Advancing Directed Verdict Practice in the Law of Torts*, 57 N.Y.U. L. REV. 521, 524-25 n.15 (1982) [hereinafter Twerski, *Seizing the Middle Ground*].

6. AMERICAN LAW INSTITUTE, ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY, REPORTERS' STUDY, VOLS. I AND II (1991) [hereinafter ALI REPORTERS' STUDY].

7. This controversial Study was not adopted by the ALI Council, but is instead considered a report *to* the council. *See* Kenneth Jost, *Rarefied Atmosphere Masks High Stakes, Deep Passions: ALI turns to Tort Reform*, LEGAL TIMES, Apr. 27, 1992, at 1. For a critique of the ALI REPORTERS' STUDY, see Stephen D. Sugarman, *A Restatement of Torts: American Law Institute Reporters' Study, Enterprise Responsibility for Personal Injury*, 44 STAN. L. REV. 1163 (1992).

The Chief Reporter for the ALI REPORTERS' STUDY, Paul C. Weiler, of Harvard University Law School, explained the study's conclusion that the insurance crisis is "more directly attributable to capital problems on the insurance side of the tort regime, not to an explosion of spurious claims," but there was an increase in liability imposition on the "wrong defendants" and "inadequate compensation for real victims." *ALI Tests Waters of Tort Reform*, 59 U.S.L.W. 2707 (May 28, 1991).

the ALI is now in the process of preparing a Restatement (Third) of Torts which will include a substantial section on products liability,[8] both critics and advocates of the current system have a golden opportunity to press their positions and affect the next generation of products liability law.[9] To that end, this Article argues that the determination of liability for design defects should be made in a negligence-based action and should focus on the manufacturer's conduct by raising the standard of care to the highest level possible.

The current system of products liability attempts to deal with all types of injury-causing product defects[10] in the same ways—using negligence, warranty and strict liability as the three bases of establishing liability. Admittedly, strict liability is the prominent basis of liability for all types of product defects and is not necessarily limited to the simple manufacturing or production flaw which prompted the adoption of Restatement (Second) of Torts

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8. *Product Safety and Liability*, 60 U.S.L.W. 2764 (June 9, 1992).

9. Professors James A. Henderson, Jr. and Aaron D. Twerski were named as co-reporters for the Products Liability section of the planned *Restatement (Third)*. One of their key responsibilities will be "to steer a divergent group of scholars and practitioners toward completion of the influential study, which is expected to take about five years to complete." *Id.*; *see also Already on the Record*, LEGAL TIMES, June 8, 1992, at 3 (reporting allegations that Professors Henderson and Twerski are pro-business in philosophy and financially backed by business concerns, thereby tainting the objectivity of the Restatement (Third)). Professors Henderson and Twerski have already re-written section 402A in a recent article. James A. Henderson, Jr. and Aaron D. Twerski, *A Proposed Revision of Section 402A of the Restatement (Second) of Torts*, 77 CORNELL L. REV. 1512 (1992) [hereinafter Henderson and Twerski, *A Proposed Revision*].

10. This Article does not address liability for manufacturing flaws, those production defects which make the offending product different from the manufacturer's specifications. The premise of this Article is, in part, that the history of the Restatement (Second) of Torts section 402A and the adoption of strict liability that evolved from Justice Traynor's concurrence in Escola v. Coca-Cola Bottling Co., 150 P.2d 436 (Cal. 1944), both impose liability for manufacturing flaws. Design defect litigation did not come to fruition until the 1970s and 1980s and was not intended to be enveloped by section 402A, even by its creators. *See infra* notes 49-59 and accompanying text.

Product defects arising from alleged failures-to-warn have occasionally been included within the rubric of strict liability, as in comment j to *Restatement* § 402A, but are generally considered negligence-based in theory. These claims similarly will not be addressed in this Article. For a discussion of failure to warn litigation, see James A. Henderson, Jr. and Aaron D. Twerski, *Doctrinal Collapse in Products Liability: The Empty Shell of Failure to Warn* 65 N.Y.U. L. REV. 265 (1990) and Aaron D. Twerski, et al., *The Use and Abuse of Warnings in Products Liability—Design Defect Litigation Comes of Age*, 61 CORNELL L. REV. 495 (1976).

section 402A.[11] However, when the more complicated litigation over allegedly defective generic product designs earnestly began in the early 1970s, it became increasingly clear that strict liability definitions of "defect" were inadequate to deal with the complexities of manufacturers' conscious design decisions.[12]

In seeking to embrace all product defect claims under the scheme of strict liability, courts developed several theories to justify strict liability for design flaws.[13] In most instances, courts have tried in vain to explain the substantive distinction between negligence and the theory of strict liability used for assessing design defects, which supposedly focuses on the condition of the product and not the conduct of the manufacturer that created that condition.[14] In their attempts to justify imposing strict liability on what

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11. RESTATEMENT (SECOND) OF TORTS § 402A (1965) [hereinafter section 402A]. For a discussion of the history of the adoption of section 402A, see *infra* notes 47-59 and accompanying text.

12. *See infra* notes 50-59 and accompanying text.

13. Strict products liability has been variously defined, but most jurisdictions follow a version which closely adheres to the language of section 402A or the liability as it has evolved in California through Greenman v. Yuba Power Products, 377 P.2d 897 (Cal. 1963) and Cronin v. J.B.E. Olson Corp., 501 P.2d 1153 (Cal. 1972), which expressly disagreed with the section 402A approach because it "rings of negligence." *Id.* at 1162. *See infra* notes 60-116 and accompanying text.

A few isolated jurisdictions impose what may be more properly called absolute liability: liability regardless of any evaluation of whether the danger is unreasonable or whether the product is defective. *See, e.g.*, Beshada v. Johns-Manville Prods. Corp., 447 A.2d 539 (N.J. 1982) (imposing absolute liability on asbestos product manufacturers for failure to warn by imputing knowledge of all dangers regardless of scientific knowledge at the time of manufacture); Azzarello v. Black Bros. Co., Inc., 391 A.2d 1020, 1026 (Pa. 1978) (purporting to follow section 402A but imposing liability based, in part, on a manufacturer's effective guarantee of his products).

14. *See infra* notes 49-59 and accompanying text. For a discussion of the similarity between strict liability for design defects and negligence liability, see Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence*, 33 VAND. L. REV. 593 (1980); James A. Henderson, Jr., *Expanding the Negligence Concept: Retreat from the Rule of Law*, 51 IND. L.J. 467 (1976); James A. Henderson, Jr., *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973) [hereinafter Henderson, *Manufacturers' Design Choices*]; James A. Henderson, Jr., *Renewed Judicial Controversy Over Defective Product Design: Toward Preservation of an Emerging Consensus*, 63 MINN. L. REV. 773 (1979) and James A. Henderson, Jr. & Aaron D. Twerski, *Closing the American Products Liability Frontier: The Rejection of Liability Without Defect*, 66 N.Y.U. L. REV. 1263 (1991) [hereinafter Henderson & Twerski, *Rejection of Liability Without*

is essentially a conduct-based evaluation, these courts unfortunately ignore the importance of focusing on the manufacturers' responsibility to the consuming public, one of the primary foundations of early strict products liability.

This Article does not advocate a return to evaluating manufacturers' conduct by the negligence principles as they existed prior to the advent of strict liability, though that is what some advocate.[15] The standard of care required must be heightened both to reflect the advances in consumer protection and product safety brought by the struggle of the last decades and, more importantly, to comport with the public's demand for manufacturer responsibility. Recognizing a heightened standard of care owed by product manufacturers in the design of their products will strike an appropriate balance between the conduct society expects and the conduct manufacturers can and should provide.

A heightened level of care which specifically incorporates a recognition of responsibility to the consuming public will address, in part, the public demand that institutions of power and authority acknowledge their responsibility and obligation.[16] Currently, and perhaps throughout the reform period, the public conscience seems to seek to achieve different goals through the tort liability system than those which courts and scholars attribute to the system: namely pure compensation, efficiency and risk distribution.[17] The

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Defect].

Even the primary author of the risk-utility test for evaluating design defects in strict liability, Professor John W. Wade, recognizes that his is basically a negligence test. *See* John W. Wade, *On the Effect in Product Liability of Knowledge Unavailable Prior to Marketing*, 58 N.Y.U. L. REV. 734, *passim* (1983) [hereinafter Wade, *Effect of Knowledge*]; John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 MISS. L.J. 825, 836-37 (1973) [hereinafter Wade, *Strict Tort Liability*]; John W. Wade, *On Product "Design Defects" and Their Actionability*, 33 VAND. L. REV. 551, 566-569 (1980).

15. *See, e.g.*, Henderson and Twerski, *A Proposed Revision*, *supra* note 9, at 1514 (proposing liability for design defects "only if the foreseeable risks of harm presented by the product when and as marketed could have been reduced at reasonable cost by the seller's adoption of a safer design . . . .").

16. *See, e.g.*, *Solve Crisis of Confidence*, PUBLIC RELATIONS JOURNAL 23 (Jan. 1992) ("People are angry. Credible polls show that the majority of Americans no longer trust government or politicians and are increasingly cynical and contemptuous toward business.").

17. For a discussion of the efficiency goals of tort law, see GUIDO A. CALABRESI, THE COST OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS, 17-21 (1970); and RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 23-24 (4th ed. 1992). *But see* James A. Henderson, Jr., *Judicial Reliance on Public Policy: An Empirical*

public seems to instead seek an acknowledgement of the responsibility it is owed by product manufacturers by virtue of the relationship of trust and confidence that exists between themselves and manufacturers.

Product manufacturers recognize the public desire for quality and safety, as evidenced by advertising campaigns that encourage consumers to believe both in them and their products.[18] This Article proposes a standard which requires compliance with those assurances of quality in the design context. It advocates the highest standard of care achievable in the product design choices made because of the special responsibility owed to consumers. Often, the injured claimant primarily seeks an acknowledgement by the offending product's manufacturer that he failed in his responsibility; a portrayal of some sense of remorse for marketing a product which the consumer trusted but which led to injury. However, product manufacturers often view injured claimants' attempts to obtain redress simply as spurious efforts to get money to which the claimants are not entitled. Product manufacturers vehemently believe in the excellence of their products and feel wrongly assaulted by attempts to disparage those

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Analysis of Products Liability Decisions, 59 GEO. WASH. L. REV. 1570, 1589-94 (1991) [hereinafter Henderson, *Judicial Reliance*] (of the major types of policy rationales identified in product liability decisions, fairness led efficiency in frequency in justifying the decisions). For a discussion of the goals and policies behind strict products liability, see David G. Owen, *Rethinking the Policies of Strict Products Liability*, 33 VAND. L. REV. 681 (1980) [hereinafter Owen, *Rethinking the Policies*]. In addition, Professor Owen has recently attempted to expound on the moral and political philosophy that forms the basis of products liability. David G. Owen, *The Moral Foundations of Products Liability Law: Toward First Principles*, 68 NOTRE DAME L. REV. 427 (1993) [hereinafter Owen, *Moral Foundations*]. Professor Owen acknowledges the importance of the special relationship between manufacturer and consumer in defining those principles. *Id.* at 429-30, 436, 473.

18. For a discussion of this representational basis for product manufacturer liability, see Leon Green, *Strict Liability Under Sections 402A and 402B: A Decade of Litigation*, 54 TEX. L. REV. 1185 (1976); and Marshall S. Shapo, *A Representational Theory of Consumer Protection: Doctrine, Function and Legal Liability For Product Disappointment*, 60 VA. L. REV. 1109 (1974) [hereinafter Shapo, *A Representational Theory*]. Furthermore, a recent article in the *Washington Post* reported on the new age of commercial altruism as a marketing technique. Don Oldenburg, *Socially Correct Marketing: Many Firms Are Coming up With "Big Cause" Ads*, WASH. POST, June 23, 1992, at C5. *See also* Paul J. Schloemer, *Let's Get America Back to Business*, INDUSTRY WEEK, April 6, 1992, at 34 (U.S. manufacturers need to make further progress in quality of processes and products to meet "the stringent requirements now imposed by virtually all customers, at home and abroad.").

products.[19] Thus, the participants in the products liability process seem to have a fundamental misunderstanding about each other's motives; a misunderstanding which ignores the essential nature of the other participants' relationship to that process.

This Article proposes a standard of liability based on the high responsibility product manufacturers have to the less informed and necessarily trusting public. Part I supports this standard by identifying the general goals of product liability law. Part II explores the history of how we came to a strict liability system to fulfill those goals. Part III defines the current system of imposing liability for product design defects and shows that this system is not one of strict liability as was originally intended, but is rather one of negligence which focuses on the manufacturer's conduct in design decisions. Once it becomes evident that design defect liability is properly based on negligence, a reassessment of the standard of conduct to be imposed on product manufacturers is in order.

To establish the proper standard, Part IV elaborates on the foundation of product manufacturer responsibility and compares the relationship between product manufacturers and their customers to that which exists between other categories of responsible actors and their victims where, because of the relationship, the responsible actor is held to the highest standard of care possible.

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19. *See* Milton R. Copulos, *An Rx for the Product Liability Epidemic*, HERITAGE FOUND. REPORTS (May 15, 1985) (reporting manufacturer response at onslaught of products claims); *see also Product Liability: Executives Say Lawsuits Have Forced Firms to Manufacture Safer Products*, BNA DAILY REPORT FOR EXECUTIVES (Jan. 7, 1988) (many executives believe lawyers and consumer activists are responsible for liability crisis and that consumers should assume greater risks).

Notwithstanding the asbestos products manufacturers' early knowledge of the health hazards of asbestos, *see* Borel v. Fibreboard Paper Prods. Corp., 493 F.2d 1076 (5th Cir. 1973), *cert. denied*, 419 U.S. 869 (1974), and the knowledge of the A.H. Robins Company about the significant hazardous side effects of the use of the Dalkon Shield intrauterine device for birth control, *see* Palmer v. A.H. Robins Co., 684 P.2d 187, 196-98 (Colo. 1984), the vast majority of products liability cases, particularly design defect cases, involve manufacturers who, generally, are interested in the safety of their products. At the risk of being criticized for including anecdotal evidence, personal experience in six years of product liability defense representation for a variety of manufacturers, large and small, tells me this is so. These manufacturers believe they are acting responsibly when they make the design decisions they do. Yet when asked why they did not implement a safety feature, they typically complain about the practical problems and expense, regardless of the amount of that expense.

Common carriers,[20] bailors for hire,[21] innkeepers,[22] and commercial providers of dangerous services,[23] among others,[24] are generally required to exercise the highest degree of care possible in their conduct.[25] Because of the element of control by one actor over the activity, the inherent trust in that control by other participants in the activity, the dangerousness of the activity, and the high probability of serious harm to unsuspecting persons when responsible care is not exercised, this Article analyzes the relationships between common carriers and passengers, and between commercial providers of dangerous services and the public in an effort to discover what sets these relationships apart from others where conduct is judged simply by the standard of the "reasonable and prudent person."

The primary factor that distinguishes these relationships is trust. This trust brings with it a duty to behave not only reasonably but responsibly. Responsible conduct reflects an obligation to behave in a way that takes into account the interests of a category of other participants who are not only less knowledgeable, but who are incapable of becoming knowledgeable about the risks involved in an activity. The relationships identified above involve these participants—the passenger of the carrier and the user of, or member of the public affected by, the dangerous commercial service. So stands the consumer of a product to the manufacturer of that product. A relationship exists which was cultivated by the manufacturer, encouraged by necessity, marketing and advertising, and culminated in the use by the consumer of the manufacturer's product. The above relationships are unique because of the inter-

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20. *See, e.g.*, Pennsylvania Co. v. Roy, 102 U.S. 451 (1880); *see also infra* notes 126-158 and accompanying text.

21. *See, e.g.*, Goldman v. Phantom Freight, Inc., 413 N.W.2d 433 (Mich. Ct. App. 1987), *leave to appeal denied*, 429 Mich. 867 (1987).

22. *See, e.g.*, Tobin v. Slutsky, 506 F.2d 1097 (2d Cir. 1974); Franklin v. Paul DuPuis & Assocs., 543 So.2d 970 (La. Ct. App. 1989), *cert. denied*, 545 So.2d 1042 (La. 1989).

23. *See, e.g.*, Van Hoose v. Blueflame Gas, Inc., 642 P.2d 36 (Colo. Ct. App. 1981), *aff'd*, 679 P.2d 579 (Colo. 1984) (supplier of liquified petroleum gas); Wooten v. Louisiana Power & Light Co., 477 So.2d 1142 (La. Ct. App. 1985) (electric utility); *see also infra* notes 159-171 and accompanying text.

24. *See, e.g.*, Hanson v. Christensen, 145 N.W.2d 868 (Minn. 1966) (public swimming resort operator held to high degree of care); Fantini v. Alexander, 410 A.2d 1190 (N.J. Super. Ct. App. Div. 1980) (karate instructor held to standard of care of a professional in the field).

25. W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS, § 34, at 208-209 (5th ed. 1984) [hereinafter PROSSER AND KEETON ON TORTS].

dependence of the actors—the product manufacturer is dependent on the consuming public for its existence and the consumer relies on the sophistication of the manufacturer to make its products in such a way that they will not be unduly harmful. Because of that relationship, the highest standard of care should be required. This standard is responsible conduct. Part IV contains an explanation of how this high standard of care will apply, suggests a jury instruction to implement the standard, and provides examples of how the standard will affect a variety of cases.

I. THE GOALS OF TORT LIABILITY FOR DEFECTIVE PRODUCTS

Much has been written on what the ultimate goals of a system of civil, as opposed to criminal, liability should be.[26] There are a variety of goals and sub-goals behind tort liability, but there is general agreement that two primary categories of goals exist.[27] The first is the fairness/rightness category of goals, which reflects the belief that tort liability should be considered a means of redressing the past wrong inflicted on one by another, regardless of how that wrong is ultimately defined.[28] The fairness goal recognizes a socie-

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26. For a discussion of the distinction between public & private law in the torts context, see Leon Green, *Tort Law: Public Law in Disguise (Pts. 1 & 2)*, 38 TEX. L. REV. 1, 257 (1959-60). A recent symposium on the debate over the corrective versus the distributive justice foundations of private and public law, and the relationship to tort law in particular, is presented in *Symposium: Corrective Justice and Formalism: The Care One Owes One's Neighbor*, 77 IOWA L. REV. 1-863 (1992).

27. The ALI Reporters' Study undertakes a full evaluation of the goals of tort liability and the different systems available to achieve those goals. ALI REPORTERS' STUDY, *supra* note 6, Vol. 1, at 23-33. For an empirical analysis of the policy on which courts rely in making product liability decisions, see Henderson, *Judicial Reliance*, *supra* note 17.

28. *See* OLIVER W. HOLMES, JR. THE COMMON LAW 77-80 (Little, Brown & Co. ed., 1923) (1881); *see also* George W. Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537 (1972). This category of goals personifies the values of corrective justice. *See generally* Stephen R. Perry, *The Moral Foundations of Tort Law*, 77 IOWA L. REV. 449 (1992); Richard W. Wright, *Substantive Corrective Justice*, 77 IOWA L. REV. 625 (1992).

Holmes is the chief advocate of the position that tort liability for personal injuries is grounded in fault, which is the failure to exercise that amount of care that society requires of us in conducting our activities. *See* HOLMES, *supra* at 111; *see also* Brown v. Kendall, 60 Mass. 292 (1850); John H. Wigmore, *Responsibility for Tortious Acts: Its History*, 7 HARV. L. REV. 315 (1894). Others have criticized Holmes' and the nineteenth century theorists' conclusion. Tort liability for personal injuries, according to recent revisionists, is non-fault based; i.e., one acts at his peril and is liable for injuries directly caused. *See* 3 FOWLER V. HARPER, FLEMING

ty's need to vindicate its sense of moral outrage at conduct defined as deviant from the norm and to deter that conduct. This goal is achieved through compensating the victim, the sense of retribution and rectification that attaches to that compensation and the reallocation of loss that takes place.[29] Tort liability implements this system of justice by placing the burdens from blameworthy conduct on the blameworthy out of a sense of justice to both parties, particularly the innocent victim.

The second broad category of goals is the efficient allocation of society's resources.[30] Imposing liability is justified generally if it increases the investment in care to a level that does not sacrifice the utility of the activity. In other words, the goal of a tort liability system should be to achieve a balance between investment in injury-preventing conduct and investment in utility-creating conduct. The inefficient allocation of resources is an evil to be deterred because it fails to both maximize wealth and minimize accident costs. Conduct which is inefficient is detrimental to society, should not

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JAMES, JR., & OSCAR S. GRAY, THE LAW OF TORTS, § 12.2 at 107 (2d ed. 1986) [hereinafter HARPER, JAMES & GRAY]; PROSSER AND KEETON ON TORTS, *supra* note 25, at 21-23. *See generally* Charles O. Gregory, *Trespass to Negligence to Absolute Liability*, 37 VA. L. REV. 359, 361-70 (1951); George L. Priest, *The Invention of Enterprise Liability: A Critical History of the Intellectual Foundations of Modern Tort Law*, 14 J. LEGAL STUD. 461, 461-65 (1985); Robert L. Rabin, *The Historical Development of the Fault Principle: A Reinterpretation*, 15 GA. L. REV. 925 (1981); Gary T. Schwartz, *Tort Law and the Economy in Nineteenth-Century America: A Reinterpretation*, 90 YALE L.J. 1717, 1722-34 (1981).

The rise of negligence in the nineteenth century has also been attributed to the Industrial Revolution's effect on judges who overzealously sought to protect fledgling businesses from economic ruin at the hands of innocent persons who were injured as a result of "the engines and machines [which] have a marvelous capacity to cripple and maim their servants." LAWRENCE M. FRIEDMAN, A HISTORY OF AMERICAN LAW 300 (2d ed. 1985). *But see* Gary T. Schwartz, *The Character of Early American Tort Law*, 36 U.C.L.A. L. REV. 641 (1989) (concluding that the industries of the nineteenth century were not given favorable treatment by the courts of that era); Gary T. Schwartz, *Tort Law and the Economy*, *supra*. For an excellent discussion of the policies on which early tort decisions were based, see Robert J. Kaczorowski, *The Common-Law Background of Nineteenth-Century Tort Law*, 51 OHIO ST. L.J. 1127, 1128 (1990) (explaining history of tort law as a policy-based system of liability in which judges "used tort law to make people behave in morally appropriate ways by holding them to community standards of reasonable behavior in the circumstances in order to minimize injuries and losses, and to promote honesty and fairness in economic relationships.").

29. *See* 3 HARPER, JAMES, AND GRAY, *supra* note 28, § 11.5 at 98-99.

30. The goals of economic efficiency are best understood by resort to the many articles on the subject by its advocates. *See, e.g.*, CALABRESI, *supra* note 17; POSNER, *supra* note 17; Posner, *supra* note 4, at 32-36.

be tolerated and should therefore be accompanied by liability.

Negligence and strict liability play intertwining roles in accomplishing these goals. Whether negligence liability or strict liability will attach is often only decided on differences in the degree of risk posed by the activity involved.[31] The goals of fairness and efficiency are served in both circumstances, but in negligence, notions of fairness and corrective justice seem to predominate because of a focus on blameworthiness.

In strict liability, the loss allocation/efficiency aspect comes to the fore because the risk of loss is often so high even with all due care that the defendant's culpable conduct is deemed irrelevant. It is assumed that the one creating the risk is in a better position to anticipate it and, therefore, to allocate it efficiently. Loss allocation serves as the paramount basis for imposing strict liability—the utility of the action is recognized, but the plaintiff's interest in freedom from invasion by harmful forces has still been violated, purportedly by one who, while prudent and careful, is in a better position to anticipate and thus bear the loss. Because the defendant's conduct is not necessarily socially undesirable, the goals of retribution or deterrence would not be served here. Liability may serve to alter the risk in the future by encouraging the actor to forego the activity if it becomes too costly but that is not the main concern. If all possible care is used, the defendant engaging in the activity theoretically would not otherwise alter his conduct to change the result in future cases and thus his actions will not be affected by a judgment of liability. Yet, the plaintiff affected by the risk should still be compensated for the loss, both because it intuitively seems fair and because of the defendant's capacity to better tolerate the loss.

So why is strict liability imposed for product-related injuries? Often the defendant's product can be made safer, so liability arguably would attach under a negligence scheme. But both the historical difficulty of proving culpability, and thus achieving greater product safety, and the recognition of great potential risk resulting from the marketing of latently defective products led courts to conclude that strict liability would achieve greater product

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31. The *Restatement (Second) of Torts* (1965) imposes strict liability for those activities which historically have been deemed sufficiently risky to be required to pay their own way when injury resulted, regardless of the defendant's care: § 504 (strict liability of possessor of trespassing livestock); § 507 (strict liability of possessor of wild animals); § 509 (strict liability of possessor of domestic animals); §§ 519, 520 (strict liability of one who carries on abnormally dangerous activity).

safety and thus promote both the fairness and efficiency goals.[32] The costs of damaging events due to defectively dangerous products can best be borne by the manufacturers who make them; accident costs will be reduced, and the plaintiff's burden of proof to recover will be eased, making products safer and litigation less costly for all parties, as well as for the judicial system.[33]

A discussion of the goals behind products liability is not complete without addressing the contract heritage of this liability. Tort liability arose in large part as a result of concern over how to address liability for nonconsensual acts which led to injury—the liability of strangers was a strong impetus of tort liability. Obligations arising from pre-existing relationships in which injury resulted were often governed by rules specific to the relationship.[34] The obligations arising out of the relationship between product seller and purchaser were historically governed by the contract law of warranties.[35] The promises made by product sellers regarding the quality of their goods governed their obligations. The bargain-

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32. *See* Escola v. Coca-Cola Bottling Co. of Fresno, 150 P.2d 436, 440-41 (Cal. 1944) (Traynor, J., concurring).

There is still no better exposition of the reasons to impose strict liability for product injuries than Justice Traynor's:

> . . . [P]ublic policy demands that the responsibility be fixed wherever it will most effectively reduce the hazards to life and health inherent in defective products that reach the market. It is evident that the manufacturer can anticipate some hazards and guard against the recurrence of others, as the public cannot. Those who suffer from defective products are unprepared to meet its consequences. The cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business. It is to the public interest to discourage the marketing of products having defects that are a menace to the public. If such products nevertheless find their way into the market it is to the public interest to place the responsibility for whatever injury they may cause upon the manufacturer, who, even if he is not negligent in the manufacture of the product, is responsible for its reaching the market. However intermittently such injuries may occur and however haphazardly they may strike, the risk of their occurrence is a constant risk and a general one. Against such a risk there should be general and constant protection and the manufacturer is best situated to afford such protection.

Id. at 440-41.

33. *See id.* Through the expanded use of res ipsa loquitur, plaintiffs were more easily and more often getting to the jury in negligence cases, thus making the strict liability doctrine a method of achieving the same goal without proving negligence, as in *Escola*.

34. *See generally* Kaczorowski, *supra* note 28, at 1129, *passim*.

35. *See* § 402A, *supra* note 3, cmt. b.

ing relationship between seller and purchaser controlled because of the perceived ability of the parties to a transaction to be able to structure what they wanted out of the transaction.[36] This resulted in the reluctance of courts to recognize a tort obligation to exercise due care in the production of products that were the subject of a sales transaction. Even so, the product seller has always been subject to an action based on his product's failure to conform to the promises made about it—either through a breach of warranty action or a tort action in deceit.[37] The bargain and sale relationship carried with it an obligation by the seller to accurately and honestly portray his wares. The reliance by the buyer on the seller's expertise supported the idea that the seller could not use his superior knowledge to the detriment of the buyer. The seller was, therefore, made to answer for his failed promise. The moral rightness of such a result is clear and parallels the tort goal of fairness. It is also efficient to encourage bargainers to promise only what they can deliver—a misallocation of resources could otherwise result.

The idea of compensating for failed representations, then, serves as a separate goal of product liability. It recognizes the effect on consumers of advertising campaigns and the potential for unjust advantage to the more knowledgeable party to a transaction. It complements the fairness and efficiency goals of tort law by adding the dimension of producer responsibility for misleading or inducing acceptance of the producers' product. The producers' *active* encouragement of consumers to purchase products led courts to impose strict liability so manufacturers would recognize the obligations to consumers that accompanied affirmative statements of quality.[38] The idea that consumers were being fooled into buying defective products under the intentional guise of high quality bolstered the courts in their efforts to improve upon a liability system based solely on negligence and warranty liability.

II. The History of Strict Products Liability and Design Defect Litigation

After the landmark cases of *MacPherson v. Buick Motor Co.*[39] and *Henningsen v. Bloomfield Motors, Inc.*[40] effectively destroyed

36. *See generally*, Shapo, *A Representational Theory*, *supra* note 18, at 1131-1152.

37. *See generally id.* at 1155-1245 (discussing theories available for product disappointment).

38. For a discussion of the warranty/representational heritage of strict liability, see Thomas A. Cowan, *Some Policy Bases of Products Liability*, 17 Stan. L. Rev. 1077, 1086-87 (1965).

39. 111 N.E. 1050 (N.Y. 1916).

40. 161 A.2d 69 (N.J. 1960).

privity of contract as an impediment to an injured person's right to recover for a product-related injury,[41] most jurisdictions embraced both negligence and warranty law as bases of liability for such injuries. Even so, many barriers to recovery remained: the patent danger rule,[42] the bystander rule,[43] the shifting duty concept in proximate cause,[44] and the intended purpose rule.[45] However, eventually these, too, fell during the 1960s and 1970s as courts

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40. 161 A.2d 69 (N.J. 1960).

41. See Prosser, *The Assault on the Citadel, supra* note 3, and Prosser, *The Fall of the Citadel (Strict Liability to the Consumer), supra* note 3, for full treatments of the fall of privity as a bar to product liability suits in negligence and warranty.

42. *See, e.g.*, Pike v. Frank G. Hough Co., 467 P.2d 229 (Cal. 1970); Micallef v. Miehle Co., 348 N.E.2d 571 (N.Y. 1976) *overruling* Campo v. Scofield, 95 N.E.2d 802 (N.Y. 1950). *Campo* had stood for the rule that a manufacturer was "under no duty to render a machine or other article 'more' safe—as long as the danger to be avoided is obvious and patent to all." 95 N.E.2d at 804; *see also* Palmer v. Massey-Ferguson, Inc. 476 P.2d 713 (Wash. App. 1970). For a critique of the patent danger rule, see 5 HARPER, JAMES AND GRAY, *supra* note 28, at § 28.5.

43. The rule prohibiting recovery to an injured bystander has all but vanished in products liability litigation. *See, e.g.*, Elmore v. American Motors Corp., 451 P.2d 84 (Cal. 1969); Codling v. Paglia, 298 N.E. 2d 622 (N.Y. 1973). Section 402A did not address the question of bystander recovery, *see* § 402A, *supra* note 3, at cmt. o. In addition, Uniform Commercial Code § 2-318 as originally enacted in most states did not provide for bystander recovery in warranty actions except to the purchaser's immediate family and guests. *See* U.C.C. § 2-318, Alt. A. However, many states still have the most restrictive provision of the U.C.C. for third-party beneficiaries. *See, e.g.*, KY. REV. STAT. ANN. § 355.2-318 (Baldwin 1960); N.C. GEN. STAT. § 25-2-318 (1964).

44. *See, e.g.*, McLaughlin v. Mine Safety Appliances Co., 181 N.E.2d 430 (N.Y. 1962) (intervening party's actions not foreseeable to product manufacturer, preventing a finding of liability). Most cases allow a jury to make the determination of foreseeability of the intervening actor. *See, e.g.*, Finnegan v. Havir Manufacturing Co., 290 A.2d 286 (N.J. 1972); *see also* Vandermark v. Ford Motor Co., 391 P.2d 168 (Cal. 1964) (manufacturer's duty to consumer is not delegable to intervening party and intervenor's negligence will not prevent manufacturer liability).

45. *See, e.g.*, Evans v. General Motors Corp., 359 F.2d 822 (7th Cir.), *cert. denied*, 385 U.S. 836 (1966), *overruled by* Huff v. White Motor Corp., 565 F.2d 104 (7th Cir. 1977). Liability for foreseeable misuse is now widely accepted, in spite of section 402A's admonition that the product need be suitable only for its intended uses. *See, e.g.*, General Motors Corp. v. Hopkins, 548 S.W.2d 344 (Tex. 1977); § 402A, *supra* note 3, cmts. g, h. *See generally* Dix W. Noel, *Defective Products: Abnormal Use, Contributory Negligence, and Assumption of Risk*, 25 VAND. L. REV. 93 (1972).

began to recognize theories of strict liability for defective products.[46]

The American Law Institute's adoption of Restatement (Second) of Torts section 402A[47] in 1964 and the California Supreme Court's adoption of strict liability in tort in *Greenman v. Yuba Power Products*[48] in 1963 signaled the beginning of a wide acceptance of non-fault based liability for product-related injuries. Neither section 402A nor *Greenman* purported to identify a method of imposing strict liability for design defects, however.[49] Manufac-

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46. The promulgation by the ALI in 1964 of section 402A imposing strict liability on the seller of a defective product spurred the rapid development of the law in this area as court after court seemed to lose its hesitation to embrace the concept of liability without fault for product defects. Of course, the precursor to this concept, Justice Traynor's concurrence in *Escola*, *see supra* note 32, had been the rallying cry of strict liability advocates for decades.

47. Section 402A, *supra* note 3, states:

> (1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if
>
> (a) the seller is engaged in the business of selling such a product, and
>
> (b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.
>
> (2) The rule stated in Subsection (1) applies although
>
> (a) the seller has exercised all possible care in the preparation and sale of his product, and
>
> (b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

48. 377 P.2d 897 (Cal. 1963).

49. While *Greenman* involved allegations of defective design because the product in question, a Shopsmith wood lathe, did not have appropriate strength screws to hold the wood being worked in place, *id.* at 899, the case could as easily have been based on a manufacturing flaw due to the inadequate fastening of the machine's parts. *Id.* In any event, the case proceeded on negligence and express warranty theories at trial. The jury found for the plaintiffs on a general verdict. *Id.* Justice Traynor's concurrence did not distinguish between liability for manufacturing flaws or design flaws, and simply concluded: "The purpose of such liability is to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves. Sales warranties serve this purpose fitfully at best." *Id.* at 901.

It is generally accepted that design litigation did not come to the forefront until the mid- to late 1970s. *See generally* James A. Henderson, Jr. & Theodore Eisenberg, *The Quiet Revolution in Products Liability: An Empirical Study of Legal Change*, 37 U.C.L.A. L. REV. 479, 484 (1990) (courts generally reluctant, until the mid-1970s, to impose strict liability on product designs where product performed exactly as intended). *See also* Richard A. Epstein, *Product Liability:*

turing flaws, not design problems, had engaged the courts' attention. Courts were reluctant to evaluate the design choices of manufacturers under an allegedly strict liability theory due to the difficulty in defining "defective" outside a negligence context—if the product was as it was intended and yet failed to perform during an intended use or reasonably foreseeable misuse, how was a court to determine defectiveness without focusing on the manufacturer's conduct in designing and marketing the product?

Section 402A was not written with design defects in mind.[50] A "defective condition" was defined by the Drafters as one "not contemplated by the ultimate consumer, which will be unreasonably dangerous to him."[51] And "unreasonably dangerous" was similarly defined to mean the product "must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics."[52] Each term's definition

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The Search for the Middle Ground, 56 N.C. L. REV 643, 649 (1978) [hereinafter Epstein, *The Search for Middle Ground*] (concept of defect expanded in the early 1970s).

Professor George Priest recently evaluated the original intent of the "founding fathers" of strict tort liability and concluded that it did not include liability for design defects. George L. Priest, *Strict Products Liability: The Original Intent*, 10 CARDOZO L. REV. 2301, 2303 (1989) [hereinafter Priest, *The Original Intent*].

50. For a thorough history of the American Law Institute proceedings that form the backdrop to section 402A, see Priest, *The Original Intent*, *supra* note 49; and John E. Montgomery and David G. Owen, *Reflections on the Theory and Administration of Strict Tort Liability for Defective Products*, 27 S.C. L. REV. 803 (1976) [hereinafter, Montgomery & Owen, *Reflections*].

In the late 1950s, when section 402A was in its preliminary stage, it was intended to apply only to certain types of contaminated food cases when the food was in "a condition dangerous to the consumer." RESTATEMENT (SECOND) OF TORTS § 402A (Prelim. Draft No. 6, 1958). *See generally* Montgomery and Owen, *Reflections*, *supra*, at 812. *See also* David A. Fischer, *Products Liability—The Meaning of Defect*, 39 Mo. L. REV. 339 (1974); Gary T. Schwartz, *Foreword: Understanding Products Liability*, 67 CAL. L. REV. 435 (1979). The definition of the type of product to which liability would attach—"defective condition unreasonably dangerous"—was debated over the course of the next four years primarily in reference to food and consumed goods. RESTATEMENT (SECOND) OF TORTS § 402A (Council Draft No. 8, 1960; Tent. Draft No. 6, 1961); AMERICAN LAW INSTITUTE, PROCEEDINGS 87-89 (1961). *See generally* Wade, *Strict Tort Liability*, *supra* note 14, at 830. When the decision was made to broaden the section to apply to all products, there was no additional debate on the language used to define the nature of products to which liability attached. *See* Montgomery & Owen, *Reflections*, *supra*, at 819-23. Professor Priest argues persuasively that the mismanufactured product constituted the intended reach of strict liability under section 402A. Priest, *The Original Intent*, *supra* note 49, at 2308, 2317-2324.

51. Section 402A, *supra* note 3, cmt. g.

52. *Id.*, cmt. i.

refers to the other. Although manufacturing flaw cases are unaffected by this circuity, it has caused its share of problems in defective design and warning cases.[53]

The problems stem from the difficulty of defining a consumer's expectations, as is required for a finding of defect, in relation to technical design features. The term "defective" obviously applies when the product has escaped the manufacturing process in a condition different than that intended even by the manufacturer.[54] It also connotes, in part, a contract-based, warranty concept—consumers purchase goods expecting that they will at least be as the manufacturer intended them to be. The consumers' expectations can logically become a measure of the seller's obligation.[55]

Escola v. Coca-Cola Bottling Co. of Fresno[56] involved the type of manufacturing flaw case that supported the tort-based, as opposed to the contract-based rationale for strict products liability. In *Escola*, the plaintiff could not "show any specific acts of negligence [but] relied completely on the doctrine of res ipsa loquitur."[57] Allowing the plaintiff to recover drew support from both the fairness and efficiency goals of compensating an innocent plaintiff: the loss would be allocated to the defendant who has control over the production process, who can better anticipate the percentage of such "flaws" occurring and who can plan accordingly, through either obtaining insurance or adjusting the price of the product, thereby distributing the risk among all consumers.

The tort-based requirement in section 402A, that the product be "unreasonably dangerous," was intended to exclude from liability products that are harmful but that are expected to pose sometimes even significant risks of harm, in the way that a knife is harmful because it is sharp.[58] The consumer's expectations had

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53. *See* 5 HARPER, JAMES AND GRAY, *supra* note 28, § 28.32A at 584-88; Wade, *Strict Tort Liability*, *supra* note 14, at 830-32.

54. *See, e.g.*, *Escola*, 150 P.2d at 441 (Traynor, J., concurring).

55. The joint warranty and negligence background of section 402A has led in part to the confusion over the meaning of the word "defect." *See generally* Wade, *Strict Tort Liability*, *supra* note 14, at 832-33. At least as regards the definition of "defective condition," warranty concepts requiring that the parties obtain the benefit of their bargain prevail. It becomes more difficult to explain how the concept of defect in the sense defined by section 402A could be relevant to an allegedly defective design, which is exactly as intended and about which consumers cannot reasonably be said to have "ordinary expectations." *See infra* notes 60-71 and accompanying text.

56. 150 P.2d 436 (Cal. 1944).

57. *Id.* at 438.

58. *See* RESTATEMENT (SECOND) OF TORTS § 402A (Tent. Draft No. 6, 1961);

to be grounded in reasonableness to prevent strict liability from becoming absolute liability.

It is in the context of manufacturing flaws that the intended focus of strict liability on the product, as opposed to the conduct of the manufacturer, makes the most sense. If the test for "unreasonably dangerous" focuses on what the consumer expected from the product, it is not a test of what a reasonably prudent manufacturer would produce and market in the particular circumstances. It is instead a search for those products that are excessively harmful to the ordinary consumer who would not expect the harmful characteristic and, therefore, would be exposed to it unwittingly. There is no need to focus on the manufacturer's conduct because when the product fails to match even the manufacturer's specifications, it is, by definition, "flawed" and, if unreasonably dangerous as a result, fault should be irrelevant. The manufacturer is required to accommodate in his business planning the costs of the percentage of flawed products his quality control process allows—a practice which is arguably more efficient and less expensive than zero-flaw quality control.

The comments to section 402A and the debate over the character of products to which the section pertains demonstrate that section 402A has its relevance and usefulness in a manufacturing flaw case.[59] The definitions do not adequately inform the analysis for design defect cases. In such cases it is necessary to resort to another means of analysis to determine whether a design is defective and unreasonably dangerous even though it is in exactly the condition the manufacturer intended and performs in the exact manner intended.

III. The Current Analysis for Determining Defective Designs

A. The Test under Section 402A

For strict liability to attach to a product, the plaintiff must prove that the product was in a defective condition unreasonably

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American Law Institute, Proceedings 87-89 (1961). *See generally* Priest, *The Original Intent*, *supra* note 49, at 2318-19; Wade, *Strict Tort Liability*, *supra* note 14, at 830-31.

59. *See* Priest, *The Original Intent*, *supra* note 49, at 2311 (analyzing founders' intent and concluding design defects were not intended to be subject to strict liability). For a discussion of the confusion generated by section 402A, see Epstein, *The Search for Middle Ground*, *supra* note 49, at 647-49 (faults section 402A for confusion surrounding terms and definitions); and ALI Reporters' Study, *supra* note 6, Vol. II, at 39.

dangerous at the time of its sale by the defendant. Both defectiveness and unreasonable danger, while arguably two separate requirements,[60] require proof that the product was in a condition not contemplated by the ordinary consumer who purchases it with the ordinary knowledge common to the community as to the product's characteristics.[61] Both the product's physical condition as well as its capacity for causing unreasonable danger must fail the consumer expectations test before liability will attach. The plaintiff is not required to prove lack of due care by the seller.[62]

Few courts adhere closely to the letter of section 402A's consumer expectations test in proving design defect.[63] The test has proved unworkable for a variety of reasons.[64] First, it connotes a contract-based liability, encouraging the jury to rely intuitively on principles of bargaining and warranty.[65] Second, if the product contains a defect which is apparent or obvious, the consumer's expectations arguably include the apparent danger, preventing liability and therefore discouraging product improvements which could easily and cost-effectively alleviate the danger.[66] Third, bystanders, who are widely recognized as protected by both tort and contract theories of products liability regardless of privity,[67] cannot be said to have any expectations about a product which causes them injury.[68]

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60. *See* Cronin v. J.B.E. Olson Corp., 501 P.2d 1153, 1155 (Cal. 1972) (concluding that proof of unreasonable danger is not a separate requirement). *But see* Phipps v. General Motors Corp., 363 A.2d 955, 959 (Md. 1976).

61. Section 402A, cmts. g, i.

62. Section 402A(2)(a), *supra* note 3. For the text of this section, see *supra* note 47.

63. *See, e.g.*, Heaton v. Ford Motor Co., 435 P.2d 806 (Ore. 1967) (explaining difficulty in proving consumer expectations for product strength).

64. *See generally* Wade, *Strict Tort Liability*, *supra* note 14, at 832-33.

65. *See id.*

66. *See generally* Fischer, *supra* note 50, at 348-52; Jerry J. Phillips, *Products Liability: Obviousness of Danger Revisited*, 15 IND. L. REV. 797 (1982); Schwartz, *supra* note 50, at 476.

67. *See, e.g.*, Elmore v. American Motors Corp., 451 P.2d 84 (Cal. 1969) (extending strict liability recovery to bystander); Codling v. Paglia, 298 N.E.2d 622 (N.Y. 1973) (same). See *supra* note 43 for discussion of continued limitations on bystander recovery in warranty actions based on the U.C.C. third-party beneficiary provisions.

68. *See* Schwartz, *supra* note 50, at 472-74; *see also* PROSSER AND KEETON ON TORTS, *supra* note 25, § 99, at 698 ("In an effort to expand the scope of liability to non-purchasers, many courts have substituted 'ordinary user' or 'foreseeable user' for 'ordinary purchaser,' thereby making it possible for victims to recover if the hazard was of a kind that would not have been contemplated by reasonably foreseeable users. . . .").

Perhaps the most important criticism of the consumer expectations test as it relates to design defects is the impossibility of the task it requires: to define just what an ordinary consumer expects of the technical design characteristics of a product. While it can be assumed that consumers expect a certain level of safety, how is that level defined when it comes to specific design criteria? For example, what do consumers expect of the structural soundness of one type of metal as opposed to another with slightly different characteristics that, if used, would require changes in still other aspects of the design?[69] If the ordinary consumer can be said reasonably to expect a product to be "strong," how strong is strong?[70] Is a general impression of strength or quality sufficient when it comes to technical design features? If so, how is that impression measurable against the actual condition of the design feature in question? These difficult questions led many courts to reject the consumer expectations test as the sole test for defective design.[71]

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69. Professor Henderson calls this problem one of polycentricity. One design feature cannot be evaluated in a vacuum because it is likely that several other aspects of the design hinge on the decision made regarding the first feature. Henderson, *Manufacturers' Design Choices*, *supra* note 14, at 1534-39.

70. *See* Heaton v. Ford Motor Co., 435 P.2d 806 (Ore. 1967). In *Heaton*, the court identified the difficulty inherent in the consumer expectations test:

> In deciding what the reasonable consumer expects, the jury is not permitted to decide how strong products should be, nor even what consumers should expect, for this would in effect be the same thing. The jury is supposed to determine the basically factual question of what reasonable consumers do expect from the product. Where the jury has no experiential basis for knowing this, the record must supply such a basis. In the absence of either common experience or evidence, any verdict would, in effect, be the jury's opinion of how strong the product should be. Such an opinion by the jury would be formed without the benefit of data concerning the cost or feasibility of designing and building stronger products. Without reference to relevant factual data, the jury has no special qualifications for deciding what is reasonable.

Id. at 809 (emphasis in original).

71. *See generally* PROSSER AND KEETON ON TORTS, *supra* note 25, § 99, at 698-99. For academic support of the consumer expectations test as the appropriate test for defective design litigation, see Michael D. Bernacchi, *A Behavioral Model for Imposing Strict Liability in Tort: The Importance of Analyzing Product Performance in Relation to Consumer Expectation and Frustration*, 47 U. CIN. L. REV. 43 (1978); F. Patrick Hubbard, *Reasonable Human Expectations: A Normative Model for Imposing Strict Liability for Defective Products*, 29 MERCER L. REV. 465 (1978); and Shapo, *A Representational Theory*, *supra* note 18.

B. The Risk-Utility Test for Defective Design

Section 402A provides no guidance, other than the largely unworkable consumer expectations test, in evaluating "defective condition unreasonably dangerous" in the context of design defects.[72] In the 1970s, courts and commentators searched for a meaningful method to evaluate a product's design under the supposedly non-fault, product-focused rubric of strict liability. The search resulted in a variety of tests described as "strict" liability that look suspiciously like negligence.[73]

Dean Wade's articles on the subject of strict liability[74] were instrumental in informing court decisions on how best to evaluate allegedly defective designs. In evaluating how to determine a product's unreasonable danger, he articulated the now-famous seven factors which many courts consider in evaluating defective design claims.[75] The factors require an evaluation of the product's overall usefulness, to both society and the individual user, an evaluation of the product's overall safety, and, most importantly, a determination of the viability of alternative products or features to the offending one in issue.

A substantial number of courts have embraced some or all of these factors as the test for defective design in strict liability and

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72. *See supra* notes 49 to 59 and accompanying text.

73. *See infra* notes 76 to 84 and accompanying text.

74. *See* Wade, *Strict Tort Liability*, *supra* note 14; John W. Wade, *Strict Tort Liability of Manufacturers*, 19 Sw. L.J. 5 (1965).

75. Wade, *Strict Tort Liability*, *supra* note 14, at 837-38. The factors are:

> (1) The usefulness and desirability of the product—its utility to the user and to the public as a whole.
>
> (2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury.
>
> (3) The availability of a substitute product which would meet the same need and not be as unsafe.
>
> (4) The manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility.
>
> (5) The user's ability to avoid danger by the exercise of care in the use of the product.
>
> (6) The user's anticipated awareness of the dangers inherent in the product and their avoidability, because of general public knowledge of the obvious condition of the product, or of the existence of suitable warnings or instructions.
>
> (7) The feasibility, on the part of the manufacturer, of spreading the loss by setting the price of the product or carrying liability insurance.

Id.

have incorporated the factors into their section 402A evaluation of "defective condition unreasonably dangerous."[76] Dean Wade recognized that these factors incorporate basically a negligence analysis, stating: "In the case of the improper design which makes the products dangerous, whatever is enough to show that it is so dangerous that strict liability should apply . . . will also be enough to show negligence on the part of the manufacturer. Even if the manufacturer is not aware of the danger created by the bad design, he is negligent in not learning of it."[77]

This multi-factor approach requires a determination of whether the utility of the product in its risky condition, which complies with the manufacturer's design and process specifications, outweighs the risks it imposes.[78] Wade's consideration of the product's overall utility to society compared to its overall safety has boiled down to a determination of whether the product could have been made safer in a feasible, practical way. On its face, this approach closely resembles the negligence calculus proposed by Judge Learned

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76. *See, e.g.*, Phipps v. General Motors Corp., 363 A.2d 955 (Md. 1976); Thibault v. Sears, Roebuck & Co., 395 A.2d 843 (N.H. 1978); Voss v. Black & Decker Mfg. Co., 450 N.E.2d 204 (N.Y. 1983); Phillips v. Kimwood Mach. Co., 525 P.2d 1033 (Ore. 1974); Turner v. General Motors Corp., 584 S.W.2d 844 (Tex. 1979).

77. Wade, *Strict Tort Liability*, *supra* note 14, at 836-37.

The California courts, always at the forefront of products liability innovations, have also adopted a form of the risk-utility test but expressly reject any resemblance to a negligence action. As in *Cronin*, the court in Barker v. Lull Engineering Co., Inc., 573 P.2d 443 (Cal. 1978), emphasized the importance in strict liability of focussing on the product and not on reasonableness or conduct. The court adopted the risk-utility test as an alternative to the consumer expectations test for defective design, *id.* at 454, but placed the burden of proving the product's utility outweighed the risk on the defendant. *Id.* at 455. Other courts have adopted the *Barker* two-test approach to design defect liability. *See* Caterpillar Tractor Co. v. Beck, 593 P.2d 871 (Alaska 1979); Knitz v. Minster Mach. Co., 432 N.E.2d 814 (Ohio), *cert. denied*, 459 U.S. 857 (1982).

78. *See, e.g.*, *Turner*, 584 S.W.2d at 851; *Phipps*, 363 A.2d at 959.

Other commentators have devised multi-factor approaches to aid courts in determining whether a product could be found defective so that the jury can decide if it is, in fact, defective. Reed Dickerson, *Products Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301, 331 (1967) (five factors); Fischer, *supra* note 50, at 359 (fifteen factors); Montgomery & Owen, *Reflections*, *supra* note 50, at 818 (four factors); Shapo, *A Representational Theory*, *supra* note 18, at 1370-71 (thirteen factors); W. Kip Viscusi, *Wading Through the Muddle of Risk-Utility Analysis*, 39 AM. U. L. REV. 573, 591-97 (1990) (three tests; one with three factors, one with four factors and one with seven factors).

For a discussion of whether the judge or jury weighs these factors in its decision, see Wade, *Strict Tort Liability*, *supra* note 14, at 838-41.

Hand in *United States v. Carroll Towing Co., Inc.*[79] In fact, Dean Wade's proposed jury instruction does not identify the seven factors for jury consideration but instead asks if a reasonable, prudent manufacturer who knew of the product's harmful character would market it.[80] "Harmful character" is left undefined and seems to assume the presence of a defect. In application, courts call this liability strict while focusing on the manufacturer's conduct in the design and marketing process.[81]

Two features of the risk-utility analysis arguably distinguish this standard of liability from negligence: (1) the time period at which the evaluation of defect is made, and (2) the character of the manufacturer's knowledge during the relevant time period. Even for those jurisdictions that analyze design defects using a risk-utility analysis as recommended by Dean Wade, there is little agreement about the time period which should be the focus of the analysis. There are several time periods during the life of a product

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79. 159 F.2d 169 (2d Cir. 1947). In explaining the duty owed by a barge owner to maintain an attendant to keep the barge from breaking from its moorings, Judge Hand set forth the formula which many courts and scholars have relied upon to define "reasonable care" in an analysis of negligent conduct:

> [T]he owner's duty, as in other similar situations, to provide against resulting injuries is a function of three variables: (1) The probability that she will break away; (2) the gravity of the resulting injury, if she does; (3) the burden of adequate precautions. Possibly it serves to bring this notion into relief to state it in algebraic terms: if the probability be called P; the injury L; and the burden, B; liability depends upon whether B is less than L multiplied by P: i.e., whether $B < PL$.

Id. at 173. *See also* Conway v. O'Brien, 111 F.2d 611, 612 (2d Cir. 1940) (L. Hand, J.), *rev'd on other grounds*, 312 U.S. 492 (1941).

While even staunch proponents of this formula of determining negligence have admitted that its components are not capable of quantitative measurement in practice, the Hand formula has spawned a healthy following. *See, e.g.*, United States Fidelity & Guar. Co. v. Plovidba, 683 F.2d 1022 (7th Cir. 1982) (Posner, J.) (following Hand formula in admiralty action although not requiring lower federal courts to use it).

In McCarty v. Pheasant Run, Inc., 826 F.2d 1554 (7th Cir. 1987), Judge Posner acknowledged the difficulty inherent in an economic formula of negligence: "Conceptual as well as practical difficulties in monetizing personal injuries may continue to frustrate efforts to measure expected accident costs with the precision that is possible, in principle at least, in measuring the other side of the equation—the cost or burden of precaution." *Id.* at 1557. For a discussion of the economic efficiency goal of tort liability, see *supra* note 30 and accompanying text.

80. Wade, *Strict Tort Liability*, *supra* note 14, at 839-40.

81. *See, e.g.*, Dart v. Wiebe Mfg., Inc., 709 P.2d 876 (Ariz. 1985); Suter v. San Angelo Foundry & Mach. Co., 406 A.2d 140 (N.J. 1979); Phillips v. Kimwood Mach. Co., 525 P.2d 1033 (Or. 1974).

that could be considered relevant to the question of whether the product is defectively designed.[82] Section 402A requires that the product must be defective at the time it leaves the seller's control.[83] The problem of defining "defective" still remains, however, because: (1) the product could have been technologically superior at the time it was made but not at the time of injury or trial due to intervening technological and/or economically practical advances; (2) uncontemplated or unforeseeable uses of the product at the time of distribution may become commonplace after distribution; or (3) an additional or more severe danger than that known or reasonably discoverable at the time of manufacture may be discovered after manufacture but before trial.[84]

1. Knowledge of Dangers and Developments Imputed at Time of Trial

To attach some significance to the allegedly strict nature of the liability, several courts impute to manufacturers knowledge of all product dangers, technological advances and uses as they exist at the time of trial.[85] The courts then analyze the manufacturer's

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82. For an excellent explanation of the importance of a court's choice of the time at which the evaluation of defectiveness is made, see Wade, *Effect of Knowledge*, *supra* note 14. *See also* James A. Henderson, Jr., *Coping with the Time Dimension in Products Liability*, 69 CAL. L. REV. 919 (1981) [hereinafter Henderson, *Coping with the Time Dimension*].

83. Section 402A, *supra* note 3.

84. Dean Wade grappled with the timing difficulty inherent in the evaluation of a design's defectiveness even from the earliest of his articles on the subject. *See* Wade, *Strict Tort Liability*, *supra* note 14, at 834-37 (advocating imputing knowledge of the dangerous condition to the defendant at the time of manufacture and distribution).

In a later article, Wade tries to make sense of the difficult question of when a manufacturer is to be held responsible for advanced technological or hazard knowledge regardless of whether he should have known or discovered it at the time of manufacture. He concluded that the question of knowledge should not be viewed in hindsight, as he previously advocated, but that a manufacturer should, in fairness, be held only to know that which reasonably could have been discovered at the time of manufacture and distribution of the product. Wade, *Effect of Knowledge*, *supra* note 14, at 758-60.

85. *See, e.g.*, Jackson v. Firestone Tire & Rubber, Co., 788 F.2d 1070, 1084 (5th Cir. 1986) (relying on Texas law, concluding that danger-in-fact as it existed at any time prior to trial must be evaluated to determine unreasonable danger of product); Kehm v. Proctor & Gamble Mfg. Co., 724 F.2d 613, 629 n.14 (8th Cir. 1983) (knowledge of danger imputed to manufacturer at time of trial, relying on Iowa law); Singleton v. International Harvester Co., 685 F.2d 112 (4th Cir. 1981) (relying on Maryland law, issue in design defect cases is whether manufacturer, knowing risks inherent in products, acted reasonably in putting them on market); *Thibault*, 395 A.2d 843 (N.H. 1978) (same); *Voss*, 450 N.E.2d 204 (N.Y. 1983) (same).

conduct in light of whether a *reasonable* manufacturer with this knowledge would nonetheless have marketed the product.[86] If not, the risks by definition outweigh the utility and the product is defective and unreasonably dangerous.[87] The court scrutinizes the product as it exists at the time of trial based on what is knowable about it *then*, not based on what was known or knowable when it was made or distributed. Under this evaluation of a manufacturer's knowledge, design defect liability comes closest to true strict liability.

Are the goals of strict tort liability promoted under this scheme? Loss re-allocation is achieved here, but purely as a compensation method. The manufacturer is not better able to distribute losses to other consumers or to procure insurance coverage for unknowable *future* risks and events.[88] In contrast, strict tort liability not only compensates, but promotes efficiency, deterrence, and encourages responsibility for injuries resulting from failed representations. By imputing knowledge of future hazards, courts may be encouraging manufacturers to produce the safest possible products, but many innovative products may not be pursued and many beneficial products may be withdrawn from the market.[89] Further, no failed representation is addressed when the manufacturer is held to know the unknowable. Although achieving only compensation may be acceptable, allowing a compensation system to govern which products should be made available to the general public does not promote a

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86. *See Voss*, 450 N.E.2d at 208. Note how the reasonableness of the manufacturer's conduct is back in issue, not the defectiveness of the product design. Courts that follow this approach believe that they are focusing on the product and whether it is defective. *See id.* at 207; *see also* PROSSER AND KEETON ON TORTS, *supra* note 25, § 99, at 699 (product is defective "if a reasonable person would conclude that the danger-in-fact, whether foreseeable or not, outweighs the utility of the product.").

87. *See, e.g.*, *Voss*, 450 N.E.2d at 208. *See generally* James A. Henderson, Jr., *Renewed Judicial Controversy Over Defense of Product Design: Toward the Preservation of an Emerging Consensus*, 63 MINN. L. REV. 773 (1979); Schwartz, *supra* note 50.

88. *See* Feldman v. Lederle Lab., 479 A.2d 374 (N.J. 1984) *limiting* Beshada v. Johns-Manville Prods. Corp., 447 A.2d 539 (N.J. 1982) (for alleged failure to warn, question is whether pharmaceutical company knew or should have known of the danger at the time of manufacture); *see also* Henderson, *Coping with the Time Dimension*, *supra* note 82, at 948-49; Wade, *Effect of Knowledge*, *supra* note 14, at 755.

89. *See Feldman*, 479 A.2d at 387-88 (refusing to impute the unknowable, emphasizing public policy to favor marketing of new products, especially drugs).

balanced allocation of resources.[90] Fairness also demands that the limits of human capabilities be recognized and that no one, including manufacturers, should be required to be prescient regarding technological advances or truly unknowable risks.

2. Knowledge at Time of Manufacture/Distribution

Many courts that apply strict liability for design defects do so by focusing on the condition of the product as it existed at the time of manufacture/distribution. These courts analyze such factors as the manufacturer's knowledge of the product's dangerous character, the technology available to improve quality and safety, the cost of any such improvements, and the availability of alternatives to the challenged design feature at the time the product is produced.[91] These courts compare the utility of the product to its knowable risks at the time of manufacture or distribution.[92] These courts seem to rely

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90. For a discussion of this effect of imposing strict liability on cigarette manufacturers, see Richard C. Ausness, *Compensation for Smoking-Related Injuries: An Alternative to Strict Liability in Tort*, 36 WAYNE L. REV. 1085, 1111-13 (1990).

91. Reed v. Tiffin Motor Homes, Inc., 697 F.2d 1192, 1197 (4th Cir. 1982) (applying South Carolina law and finding that "state of the art" evidence is "necessary and probative of the issue of 'unreasonably dangerous.'"); Bruce v. Martin-Marietta Corp., 544 F.2d 442 (10th Cir. 1976) (applying Maryland law and finding that trial court correctly considered "state of the art" evidence); Heritage v. Pioneer Brokerage & Sales, Inc., 604 P.2d 1059 (Alaska 1979); Brady v. Melody Homes Mfr., 589 P.2d 896 (Ariz. Ct. App. 1978); Anderson v. Hyster Co., 385 N.E.2d 690 (Ill. 1979) (availability and feasibility of alternate designs and industry standards at the time of manufacture may be considered when determining whether design is defective); Boatland of Houston, Inc. v. Bailey, 609 S.W.2d 743 (Tex. 1980); Maxted v. Pacific Car & Foundry Co., 527 P.2d 832 (Wyo. 1974).

Evidence of the available technological capabilities and alternatives is referred to as "state of the art" evidence and is often termed, incorrectly, a defense. *See* Boatland of Houston, Inc., 609 S.W.2d at 748. *See generally* Annotation, *Burden of Proving Feasibility of Alternative Safe Design in Products Liability Action Based on Defective Design*, 78 A.L.R. 4TH 154 (1990).

92. Manufacturers are said to be held to the knowledge and skill of an expert at the time of distribution under this evaluation. *See, e.g.*, Karjala v. Johns-Manville Prods. Corp., 523 F.2d 155, 159 (8th Cir. 1975) (applying Minnesota law); Borel v. Fibreboard Paper Prods. Corp., 493 F.2d 1076, 1089 (5th Cir. 1973) (applying Texas law), *cert. denied*, 419 U.S. 869 (1974); 5 HARPER, JAMES AND GRAY, *supra* note 28, § 1541, at 435; PROSSER AND KEETON ON TORTS, *supra* note 25, § 96, at 684.

Many of these cases imposing an expert's knowledge deal with an alleged failure to warn, as in the case of asbestos products in *Karjala* and *Borel*, *supra*. Restatement § 402A, *supra* note 3, cmt. j, on this topic says, however, "[t]he seller

on the practical notion that liability should not be based on a manufacturer's failure to do either the impossible or the practically impossible.[93]

By evaluating a product's condition at the time of manufacture, these courts necessarily consider the manufacturer's decisions which led to the design used. There is no way to compare design alternatives without challenging the manufacturer's ultimate choice. Evaluating such decisions based on information available at the time made supports the efficiency goal of tort liability; it both allows the manufacturer to accurately assess the costs of his design choice by reducing the uncertainty of future costs and enables the manufacturer to estimate the losses it will need to allocate to the product's cost or to insure against. Whether manufacturers do so fairly is another question. Assessing a product's design at the time of manufacture is fair to the manufacturer and allows a determination of his reasonableness, thus allowing a level of compensation for product failures that result from unreasonable choices. However, this may not encourage responsibility to the consumer to the level required to fulfill the goal of products liability in protecting the trust relationship with the consumer.

3. Knowledge is Not Relevant

A few jurisdictions have taken *strict* liability at its word and concluded that the manufacturer's knowledge of dangers, technological advances, or feasible alternatives is simply not relevant to whether the product has a defective design. In *Azzarello v. Black Brothers Co., Inc.*[94] and *Beshada v. Johns-Manville Products Corp.*,[95] Pennsylvania and New Jersey courts respectively concluded

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is required to warn against [the danger], if he has knowledge, or by the application of reasonable, developed human skill and foresight should have knowledge, of the presence of the ingredient and the danger." This standard does not seem to rise to the level of the expert. However, most courts have concluded that the manufacturer is held to the knowledge and skill of an expert in the field in all phases of the product's manufacture and distribution. *See, e.g.*, Halphen v. Johns Manville Sales Corp., 484 So.2d 110, 115 (La. 1986); Owen-Illinois v. Zenobia, 601 A.2d 633, 641 (Md. 1992).

93. *Compare* Wade, *Effect of Knowledge*, *supra* note 14, at 756-59 (agreeing with this approach, contrary to his earlier writings) *with* Wade, *Strict Tort Liability*, *supra* note 14, at 834.

94. 391 A.2d 1020 (Pa. 1978).

95. 447 A.2d 539 (N.J. 1982).

that a product must be made safe to the greatest extent possible.[96] Evidence of the level and quality of available knowledge of hazards and technological advancements is irrelevant.[97] This approach has been criticized as both failing to promote fairness or efficiency and discouraging responsible manufacturing.[98]

C. Strict Liability versus Negligence Liability: What does it Mean to Focus on the Product Instead of the Conduct?

Many courts consider a manufacturer's knowledge of risks and alternative design at the time of manufacture in determining strict liability for product design. However, once courts consider both knowledge and acts based on that knowledge, they are evaluating the manufacturer's design choices and decision-making process.[99] If a court studies the "manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility,"[100] the focus is on conduct. In fact, most jurisdictions require evidence of the availability of a feasible, practical alternative at the time of manufacture before liability is imposed, specifically evaluating the manufacturer's decision to reject that alternative.[101] Evaluating a manufacturer's ability to, and decision not to, change a product's

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96. *See Azzarello*, 391 A.2d at 1027 (product can be found defective where it "left the supplier's control lacking any element necessary to make it safe for its intended use or possessing any feature that renders it unsafe for the intended use.") (footnote omitted); *Beshada*, 447 A.2d at 546, 549. In *Azzarello*, however, the manufacturer is effectively a guarantor—but not an insurer—of the safety of its products, according to the court. 391 A.2d at 1024. The distinction between an insurer and a guarantor, however, is semantic at best. In New Jersey, *Beshada* has been limited to asbestos cases only. Feldman v. Lederle Lab., 479 A.2d 374 (N.J. 1984). For a criticism of *Azzarello*, see Birnbaum, *supra* note 14, at 636-39.

97. *See, e.g.*, Santiago v. Johnson Mach. & Press Corp., 834 F.2d 84 (3d Cir. 1987) (state-of-the-art evidence inadmissible in a strict liability case); Lewis v. Coffing Hoist Div., Duff-Norton Co., 528 A.2d 590 (Pa. 1987); *see also Beshada*, 447 A.2d at 548 (evidence of past knowledge can create jury confusion).

98. *See, e.g.*, James A. Henderson, Jr. & Aaron D. Twerski, *Closing the American Products Liability Frontier: The Rejection of Liability Without Defect*, 66 N.Y.U. L. REV. 1263 (1991).

99. *See supra* notes 91-93 and accompanying text.

100. Wade, *Strict Tort Liability*, *supra* note 14, at 837 (factor (4)). *See supra* note 75.

101. *See, e.g.*, Reed v. Tiffin Motor Homes, Inc., 697 F.2d 1192, 1197 (4th Cir. 1982); Voss v. Black & Decker Mfg. Co., 450 N.E.2d 204, 208 (N.Y. 1983); Boatland of Houston, Inc. v. Bailey, 609 S.W.2d 743, 746 (Tex. 1980) (jury may consider evidence of a safer design).

design necessarily requires evaluating the decisions made regarding the existing design. This evaluation of conduct is a negligence inquiry.[102]

The approach taken by the Michigan Supreme Court in *Prentis v. Yale Manufacturing Co.*[103] and in *Owens v. Allis-Chalmers Corp.*[104] illustrates the true negligence-based focus of design defect litigation. In both cases the court concluded that the risk-utility evaluation for design defect litigation, while the most appropriate means of analysis, was also a negligence analysis focusing on the manufacturer's conduct in the decision-making process.[105]

Prentis and *Owens* both involved suits against the manufacturers of forklifts, the former for failure to provide a seat or other platform for the operator's use, and the latter for failure to provide a seat belt or other restraint to prevent injury in case of a rollover.[106] In *Owens*, the court concluded that in a case based on design defect liability the test is whether the design was unreasonably dangerous by creating an unreasonable risk of foreseeable injury—a negligence standard.[107] The court concluded that the plaintiff had failed to present a prima facie case because no evidence was presented on two requirements: (1) the magnitude of the risk posed by the alleged defect; and (2) other reasonable design alternatives.[108]

Clarifying that the test for design defect is the same regardless of the theory of liability under which the plaintiff proceeds, the *Prentis* court candidly stated that the theory of liability for design defect is negligence based.[109] The court acknowledged that this

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102. *See* Wade, *Effect of Knowledge*, *supra* note 14, at 748-49, 759-61; *see also* Birnbaum, *supra* note 14, *passim*.

The "reasonably prudent manufacturer" test, which evaluates whether such a manufacturer would market the product knowing of its dangerous characteristic, bases liability on the imputed knowledge of the risk, not imputed knowledge of technological advances and alternatives. As discussed *see supra* notes 85-90 and accompanying text, this test is closest to strict liability, but has been disregarded when the subject of alternative designs is the focus because courts are reluctant to impute knowledge of future technological advancements to the manufacturer. *See generally* Wade, *Effect of Knowledge*, *supra* note 14, at 756-59.

103. 365 N.W.2d 176 (Mich. 1984).

104. 326 N.W.2d 372 (Mich. 1982).

105. *Prentis*, 365 N.W.2d at 186; *Owens*, 326 N.W.2d at 377 (test is whether the risks were unreasonable in light of the foreseeable injuries).

106. *Prentis*, 365 N.W.2d at 179; *Owens*, 326 N.W.2d at 373.

107. 326 N.W.2d at 377.

108. *Id.* at 378-79.

109. *Prentis*, 365 N.W. at 186.

conclusion heightens the plaintiff's burden when threatening an entire product line, but justified that heightened standard by noting that "'unlike manufacturing defects, design defects result from deliberate and documentable decisions on the part of manufacturers, and plaintiffs should be able to learn the facts surrounding these decisions through liberalized modern discovery rules.'"[110] The court adopted the risk-utility test proposed by Dean Wade for determining liability based on design defects, but described its decision as adopting a "pure negligence" test.[111] "The competing factors to be weighed under a negligence risk-utility balancing test invite the trier of fact to consider the alternatives and risks faced by the manufacturer and to determine whether in light of these the manufacturer exercised reasonable care in making the design choices it made."[112] In a design defect case, the issue is "whether the manufacturer properly weighed the alternatives and evaluated the trade-offs."[113]

Likewise, the Minnesota Supreme Court has concluded that in a design defect case, the "defect" lies in a consciously chosen design and that this requires courts to evaluate whether the manufacturer's choice of design struck an acceptable balance among several competing factors.[114] The court completely rejected the

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110. *Id.* at 185. One of the reasons behind imposing strict product liability was to ease plaintiff's burden of proving negligence, which was thought to be onerous given the availability of the needed evidence in defendant's hands. *See infra* text accompanying note 118.

111. 365 N.W.2d at 186.

112. *Id.* at 184. For application of this negligence test for design defects, see Siminski v. Klein Tools, Inc., 840 F.2d 356, 358 (6th Cir. 1988) (jury verdict for plaintiff reversed for plaintiff's failure to make out prima facie case. "Plaintiff's bare opinion, coupled with mere examination of the catalog choices and belt" not sufficient proof of defect in safety belt); Lake v. Firestone Tire & Rubber Co., No. 90-1787, 1991 U.S. App. LEXIS 14238 (6th Cir. June 27, 1991) (summary judgment appropriate because plaintiff proffered insufficient evidence of relative utility of challenged three-piece wheel design); Gross v. Consolidated Aluminum Corp., No. 91-1374, 1991 U.S. App. LEXIS 30373 (6th Cir. Dec. 23, 1991) (foreseeability of risk determined as of time of manufacture and design, not time of trial; insufficient evidence of magnitude of risk known or knowable at time of manufacture).

113. *Prentis*, 365 N.W.2d at 186 (quoting Aaron Twerski et al., *Shifting Perspectives in Product Liability: From Quality to Process Standards*, 55 N.Y.U. L. REV. 347, 359 (1980)).

114. Bilotta v. Kelley Co. Inc., 346 N.W.2d 616, 622 (Minn. 1984); Holm v. Sponco Mfg., Inc., 324 N.W.2d 207, 212 (Minn. 1982) (risk-utility balancing test devised by Wade adopted to evaluate manufacturer's conduct in design decisions); *see also* Kociemba v. G.D. Searle & Co., 695 F. Supp. 432 (D. Minn. 1988)

"consumer expectations" test of section 402A for the negligence-like "reasonable-care" balancing test because the latter objectively focuses on the manufacturer's conduct demanded by the issues involved in design defect cases.[115] These courts recognize the true nature of the design defect inquiry: Did the manufacturer exercise the required care in its design decisions to prevent foreseeable risks of unreasonable harm to the plaintiff?[116]

IV. A Proposed Standard of Care: Focusing on Responsibility

Strict liability for defective products serves a variety of tort liability goals. Primarily, strict liability serves to allocate losses to those who are purportedly better able to anticipate them and, thus, to bear them.[117] Strict liability serves to redistribute risks to those who profit by them and who, therefore, in fairness should

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(regardless of liability theory, it is appropriate for jury to consider reasonableness of manufacturer's conduct both in developing unavoidably unsafe but desirable product and in not developing safe-as-possible product).

115. *Bilotta*, 346 N.W.2d at 622. In *Holm*, the court rejected the latent-patent danger rule and replaced it with a "reasonable care" balancing test. 324 N.W.2d at 213. *See also* St. Germain v. Husqvarna Corp., 544 A.2d 1283 (Me. 1988) (both negligence and strict liability theories require plaintiff to show product presented unreasonable risk of harm). *Cf.* Phillips v. Kimwood Mach. Co., 525 P.2d 1033, 1039 (Or. 1974) (court claims to find differences between strict liability and negligence theories in failure to warn cases, but concludes, "It is necessary to remember that whether the doctrine of negligence, ultrahazardousness, or strict liability is being used to impose liability, the same process is going on in each instance, *i.e.*, weighing the utility of the article against the risk of its use.")

116. For an example of the confusion that results from defining the inquiry as one of strict liability and not negligence, compare Turner v. General Motors Corp., 584 S.W.2d 844 (Tex. 1979), with Boatland of Houston v. Bailey, 609 S.W.2d 743 (Tex. 1980). *See also* Kehm v. Proctor & Gamble Mfg. Co., 724 F.2d 613, 628 (8th Cir. 1983) (Lay, C.J., concurring, identifies "unfortunate use" of negligence language in jury instructions but concludes difference with strict liability remains clear); Robbins v. Farmers Union Grain Terminal Ass'n, 552 F.2d 788, 793-95 (8th Cir. 1977) (knowledge and culpable fault not elements in strict liability, but court formulates test relying on whether manufacturer, with knowledge, would be negligent in selling product).

The ALI Reporters' Study, *supra* note 6, vol. II, at 47-52, criticizes the current application of the risk-utility test, agreeing with *Prentis*, and concludes that, in design defect cases the inquiry should be on the reasonableness of the manufacturer's decision, *a fortiori* the same should apply in generic product category liability with which the study takes particular issue.

117. *See supra* notes 30-31 and accompanying text. For discussions of loss allocation as an improper basis of strict liability, see Epstein, *The Search for the Middle Ground*, *supra* note 49 at 660-61; and ALI Reporters' Study, *supra* note 6, Vol. II at 49-50.

be the ones to accommodate them. In addition, courts view strict liability as a way to deliver plaintiffs from a tort liability system seemingly stacked against them—proof of negligence was often difficult to obtain in the case of manufacturing defects and it was the general consensus among courts and commentators that many manufacturers escaped negligence liability because of the difficulty of proof.[118]

The contractual sales warranty basis of liability also provided support for a tougher standard of liability. Product sellers were held liable for the failure of their products to meet both express and implied representations of quality and safety. The heightened expectation these representations created in the consuming public led many courts to consider this representational basis as a strong concurrent basis of strict products liability.[119] Product manufacturers relentlessly advertise their products, seeking to persuade the consuming public that their products have wonderful virtues, at least long enough to consummate a purchase. This constant attempt to encourage consumer confidence in advertising representations leads to a manufacturer's obligation to insure that the reality of product quality conforms to the fiction of advertising. Enforcing manufacturers' representations is an additional goal of strict liability.

Warranty actions had their own hurdles for plaintiffs, but presented a fault-free analysis in cases where it seemed most appropriate—manufacturing defects. Further, courts relaxed liability standards, at least in part, as a result of the special nature of the relationship between the consumer and the manufacturer.[120]

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118. For a discussion of this goal of strict liability, see *infra* notes 26-38 and accompanying text. *See also* Priest, *The Original Intent*, *supra* note 49, at 2305-2308.

119. For the primary exposition of this idea, see Shapo, *A Representational Theory*, *supra* note 18. *See also* Green, *supra* note 18 at 1189-91; Owen, *Rethinking the Policies*, *supra* note 17, at 707-709; Owen, *Moral Foundations*, *supra* note 17, at 463-68.

120. Section 402A, *supra* note 3, cmt. c, recognizes this relationship as a foundation of strict liability:

> On whatever theory, the justification for the strict liability has been said to be that the seller, by marketing his product for use and consumption, has undertaken and assumed a special responsibility toward any member of the consuming public who may be injured by it; that the public has the right to and does expect, in the case of products which it needs and for which it is forced to rely upon the seller, that reputable sellers will stand behind their goods; that public policy demands that the burden of accidental injuries caused by products intended for consumption be placed

In assisting plaintiffs by relaxing the basis of liability, courts sought to encourage manufacturers to respect their responsibility to that relationship and to increase product safety. It was hoped that because manufacturers could no longer escape liability for negligence, they would use quality control and inspection methods capable of catching more product flaws.[121]

Whether a strict liability standard has had a positive effect on safer design choices is less clear—products liability has generally been thought to lead to safer, though less innovative, products.[122] Only if a manufacturer has the opportunity to change future designs without being unfairly punished will he be likely to make those changes. It should be possible to encourage product innovation, quality, and safety all at the same time.

Encouraging manufacturers to make efficient design decisions by imposing a predictable liability rule that solely accommodates efficiency concerns is not, however, the goal of this Article. Rather, this Article seeks to encourage courts to set the standard of manufacturer conduct in design choices at a higher level. Strict liability for design defects ignores the element of manufacturer responsibility for conduct in favor of a "pure" loss allocation system that fails to reward an actor whose conduct evidences a respect for obligations imposed. In the negligence system, manufacturers are rewarded for prudent, ordinary conduct that also seems to impersonalize the inquiry and ignore the special responsibility owed to consumers. The liability of manufacturers for their design choices should lie somewhere between traditional negligence and strict liability.

The law has defined other circumstances where greater care and circumspection in actions is required than what can be accomplished by a reasonable, prudent person. The highest, most protective level of conduct is required of an actor when he is the more powerful, more knowledgeable, more controlling party in a

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upon those who market them, and be treated as a cost of production against which liability insurance can be obtained; and that the consumer of such products is entitled to the maximum protection at the hands of someone, and the proper persons to afford it are those who market the products.

121. *See Escola*, 150 P.2d at 440-41 (Traynor, J. concurring); Henderson, *Manufacturers' Design Choices*, *supra* note 14, at 1544-46. For a discussion of the empirical data on the effect of strict liability on safety innovations, see VISCUSI, *supra* note 5, at 67-70.

122. *See* VISCUSI, *supra* note 5, at 70; *see also* ALI REPORTERS' STUDY, *supra* note 14, at 263-64, 276-78.

relationship of trust and confidence.[123] This Article argues that the relationship between consumer and product manufacturer in the context of product design is one such relationship.[124]

A. Defining Characteristics of Relationships of Trust

Courts have attached a higher standard of care to certain trust relationships which carry special responsibility. These relationships share the same characteristics as that of consumer and product manufacturer.[125] The characteristics which justify heightening the

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123. That a duty may arise from a multitude of relationships is clear: social host/guest, landlord/tenant, property owner/trespasser-licensee-invitee, master/servant, and carrier/passenger, among others. That a special duty may arise from other relationships not traditionally defined as requiring a duty is also clear. *See* MacPherson v. Buick Motor Co., 111 N.E. 1050 (N.Y. 1916) (recognizing a duty in tort owed by product manufacturers to consumers regardless of privity, because of the high degree of risk and the greater ability of the manufacturer to discover that risk). Society's judgment of undesirable conduct constantly changes. If the law did not reflect this constant change in attitudes, it would not reflect the spirit of the system by which we govern ourselves. For a discussion of the complicated nature of defining "duty" without reference to society's expectations, see Leon Green, *The Duty Problem in Negligence Cases, Parts I & II*, 28 COLUM. L. REV. 1014 (1928), 29 COLUM. L. REV. 255 (1929). For a more recent explanation of the problem, specifically regarding products liability, see Peter H. Schuck, *Introduction: The Context of the Controversy*, *in* TORT LAW & THE PUBLIC INTEREST 17, 18-20 (Peter H. Schuck, ed. 1991).

124. Unlike product manufacturers, distributors, wholesalers, and retailers serve as mere conduits of the product to the market. Because they have no meaningful participation in the choices made in a product's design and production process, they do not create a special relationship of trust with their consumers. To the extent that manufacturers either attempt to delegate responsibility to them or that they exercise or could easily exercise meaningful participation, this author may advocate that a higher standard should apply to those relationships with consumers as well. *See* Vandermark v. Ford Motor Co., 391 P.2d 168, 171 (Cal. 1964) (rejecting one product manufacturer's attempt to delegate final product responsibility to a retailer).

Many jurisdictions have altered the potential strict liability of the "intermediary" category of sellers and adopted certain defenses, such as the sealed container defense, to prevent liability from attaching to intermediary sellers who act as mere conduits of the product to market. For a discussion of these statutory modifications, see JAMES A. HENDERSON, JR. & AARON D. TWERSKI, PRODUCTS LIABILITY: PROBLEMS & PROCESS 170-73 (2d ed. 1992).

125. This Article addresses only liability for alleged design defects because the manufacturer has exclusive control of the design process—one which is peculiarly human in its character and requires the exercise of conscious thought and analysis. Manufacturing flaw cases deal with the unintended defect rather than the intended characteristic of the product and are properly the subject of strict liability as

requisite standard of care include the following: (1) representations of superior ability and quality by a member of the relationship who has control over the activity; (2) lack of information available to and processable by another member of the relationship, in part, because the member controlling the activity represents care and quality so that the less knowledgeable member neither seeks, nor understands a need to seek, additional information; and (3) trust by the less-informed member in the expertise and authority of the other member, in part because of the efforts by the latter to encourage that trust. The less-informed member is likely to be aware of the disparity in power and control even when entering the relationship. However, she often has little choice but to engage in the activity (i.e. purchase the product) because of a need or desire for what the relationship offers which is encouraged by the representations of, and confidence in, the more powerful member.

The powerlessness of the less-informed member is known to both parties; neither can change it in any meaningful way. Ultimately, the activity entails a significant risk of harm, a risk preventable only by the one who has power over the activity. The relying member of the relationship does not have knowledge of the specific risk until it manifests itself and, prior to this, had no reason to seek such knowledge because of a trust in the more knowledgeable member.

A higher standard of care is required of the more knowledgeable and powerful members of these relationships. These parties should be required to make responsible decisions and to specifically take the well-being of the other members of the relationship into account. The higher standard of care recognizes the special nature of the trust relationship that is entered. Several such relationships are well-recognized in the law as requiring the highest degree of care. Evaluating these relationships informs the analysis of what

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defined in section 402A. *See supra* notes 49-59 and accompanying text.

Failure to warn cases deal with the processing of information by the manufacturer in deciding whether and how to advise the consumer of a danger and how to best alleviate it. The consumer often has some information from the manufacturer to make her own decisions. In design cases, however, the manufacturer keeps all information to himself and decides what is in the best interest of the public; the consumer is not generally advised about the level of risk so as to be able to make an informed decision about whether or not to purchase the product. Failure to warn cases may be analyzed appropriately under a high standard of care for the same reasons as the design cases should be. This issue, however, is not considered in this Article.

level of care should be required of product manufacturers in design decisions.

1. The Common Carrier/Passenger Relationship

Common carriers are defined as those entities that hold themselves out to the general public as willing and able to transport any fare-paying passenger to the destinations the carrier serves.[126] Payment of the fare is not required to achieve the status of a passenger of a common carrier or for the carrier's duty to arise.[127] Because of the public duty inherent in their undertaking, common carriers are held almost universally to the highest degree of care that human foresight and diligence can achieve.[128] Reviewing the major United States Supreme Court decisions which embedded this concept in American jurisprudence enlightens the determination of other relationships which require greater than ordinary care.

The first Supreme Court case to acknowledge the higher standard owed by common carriers was *Stokes v. Saltonstall.*[129] The Court, relying on a line of English cases, affirmed that passengers are owed the duty of utmost care and diligence and that carriers are "answerable for the smallest negligence."[130] The passenger carrier's duty of utmost care went far beyond the circumstances immediately surrounding the injury and included "any incaution" by the owner or its agents.[131] In addition to the high duty of care, the Court recognized the difficulty a plaintiff might have in proving a lack of utmost care in some circumstances and required the defendant to prove compliance with the required care once the plaintiff proves his status as a passenger and that he was injured.[132]

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126. *See, e.g.*, Harper v. Agency Rent-A-Car, Inc., 905 F.2d 71, 73 (5th Cir. 1990) ("A common carrier is one who engages in the transportation of the public as ready and willing to serve the public indifferently, in the particular in which he is engaged.") (quoting Burnett v. Ritter, 276 S.W. 347, 349 (Tex. Civ. App. 1925)).

127. *See, e.g.*, Southern Pac. Co. v. Schuyler, 227 U.S. 601 (1913) (relying in part on Utah law); Suarez v. Trans World Airlines, Inc., 498 F.2d 612, 615-16 (7th Cir. 1974).

128. *See generally* PROSSER AND KEETON ON TORTS, *supra* note 25, § 34, at 208-09.

129. 38 U.S. (13 Pet.) 181 (1839).

130. *Id.* at 191. The carrier was a stagecoach line. *Id.*

131. *Id.* at 191.

132. *Id.* at 190-93. Several authors have suggested shifting to defendants the burden of proving compliance with the required standard of care in products liability cases. *See* Barker v. Lull Eng'g Co., 573 P.2d at 443, 454; Bender, *supra* note 1, at 885-88; David P. Griffith, *Note, Products Liability-Negligence Presumed:*

This aspect is particularly enlightening of the Court's solicitous attitude toward the special nature of the relationship; the allegation of negligence in *Stokes* was the driver's intoxication, a fact not difficult of proof for either the plaintiff or the defendant.

In the wave of industrialization in the latter half of the nineteenth century, carriers attempted to alleviate some of the care burden that the courts earlier had recognized by including limitation of liability clauses in their carriage contracts. The Court declined to favor carriers over passengers in this attempt and in *Railroad Co. v. Lockwood*[133] concluded that the special nature of the relationship of common carriers to their passengers prevented any attempt by the carrier to limit its liability for negligence.[134] In so doing, the Court expressly recognized the inequality of position from which passengers may seek to protect themselves. The Court stated:

An Evolution, 67 TEX. L. REV. 851, 880-89 (1989).

Frankly, the arguments that favor shifting the burden of proof in any one circumstance also weigh in favor of shifting that burden in cases of proving compliance with the high standard of care advocated here, just as the burden was shifted in *Stokes*. The issue is beyond the scope of this Article, which advocates heightening the standard in the traditional scheme in which plaintiffs bear the burden of proving its breach. I am by no means convinced that the burden should not be shifted in this circumstance as well. *See generally* Bender, *supra* note 1, at 881-85.

133. 84 U.S. 357 (1873).

134. *Id.* at 377. The Court, after a lengthy recitation of the state of the law on the issue in New York, where the case arose, and other jurisdictions which had addressed the matter, concluded that even though there had been some situations in which common carriers had been allowed to restrict their liability, limitation of all liability for the carrier's negligence was expressly contrary to the "fundamental principles on which the law of common carriers is founded. . . ." *Id.* The Court explained these principles:

> In regulating the public establishment of common carriers, the great object of the law was to secure the utmost care and diligence in the performance of their important duties—an object essential to the welfare of every civilized community. Hence the common-law rule which charged the common carrier as an insurer. Why charge him as such? Plainly for the purpose of raising the most stringent motive for the exercise of carefulness and fidelity in his trust. In regard to passengers the highest degree of carefulness and diligence is expressly exacted. In the one case the securing of the most exact diligence and fidelity underlies the law, and is the reason for it; in the other it is directly and absolutely prescribed by the law. It is obvious, therefore, that if a carrier stipulate not to be bound to the exercise of care and diligence, but to be at liberty to indulge in the contrary, he seeks to put off the *essential duties* of his employment.

Id. at 377-78 (emphasis in original).

> The carrier and his customer do not stand on a footing of equality. The latter is only one individual of a million. He cannot afford to higgle or stand out and seek redress in the courts. His business will not admit such a course. . . .
>
> If the customer had any real freedom of choice, if he had a reasonable and practicable alternative, and if the employment of the carrier were not a public one, charging him with a duty of accommodating the public in the line of his employment; then, if the customer chose to assume the risk of negligence, it could with more reason be said to be his private affair, and no concern of the public. But the condition of things is entirely different. . . . Contracts of common carriers, like those of persons occupying a fiduciary character, giving them a position in which they can take undue advantage of the persons with whom they contract, must rest upon their fairness and reasonableness. . .[135]

The Court based its decision on the three characteristics which necessitate imposing a high degree of care: "the inequality of the parties, the compulsion under which the customer is placed, and the obligations of the carrier to the public. . . ."[136] These result in

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135. *Id.* at 379-80. The significant inequity in bargaining position indicates "that the conditions imposed by common carriers ought not to be adverse (to say the least) to the dictates of public policy and morality. The status and relative position of the parties render any such conditions void." *Id.* at 380.

Certainly, the monopolistic character of many railroads of the day explains in part the high care required. But it by no means is the exclusive reason to require high care. In Shoemaker v. Kingsbury, 79 U.S. 369 (1870), the Court refused to extend the highest standard of care to a contractor building the eastern division of the Union Pacific Railroad who occasionally transported other people, including plaintiff, a local sheriff. The court concluded that the sheriff was only owed a duty of reasonable care because he assumed the significant risks of riding on unfinished railroad tracks in the wilderness. *Id.* at 377. The defendant's private character and the sheriff's knowledge of the risks prevented a high level of care from being demanded. Instead, all that was required "was the exercise of such care and skill in the management and running of the train as prudent and cautious men, experienced in that business, are accustomed to use under similar circumstances." *Id. See also* Butler v. Boston & Savannah S.S. Co., 130 U.S. 527 (1889) (in admiralty, liability of common carrier owners can be limited by statute if injury occurs by servant without owner's knowledge).

136. 84 U.S. at 381-82. For a discussion of the character of conduct required to meet the high standard, see Railroad Co. v. Pollard, 89 U.S. 341 (1874) (testimony that railroad company used the best equipment to deaden concussions between trains not sufficient to require nonsuit; fact issue for jury as to compliance

greater obligations of the more powerful party to the public.

The Supreme Court affirmed the broad nature of the responsibility that inheres in the common carrier-passenger relationship in *Pennsylvania Co. v. Roy*.[137] The Court was called upon to decide the extent of the obligation of the Pennsylvania Company (the Railroad) for an injury which occurred in a Pullman sleeping car owned by the Pullman Company, but operated by the Railroad. While the plaintiff was riding in the car, the upper berth fell and struck him on the head. The porter of the sleeping car arrived, put the berth back into place and assured the plaintiff that it would not fall again. Subsequently, the berth fell again, striking the plaintiff's head.[138] The Court approved jury instructions which assigned responsibility to the Railroad for the activities of the Pullman employees and thereby extended the obligation of railroads to include responsibility for the employees of other carriers.[139] The Court extended responsibility to the Railroad to achieve "the greatest possible care and diligence—that the personal safety of passengers should not be left to the sport of chance, or the negligence of careless agents."[140] The Court explained that the Railroad and its agents "shall possess competent skill, and, as far as human care and foresight can go, he will transport them safely,"[141] regardless of the presence of another possibly responsible intermediary.

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with highest standard of care); Shoemaker v. Kingsbury, 79 U.S. 369, 375-76 (1870) (dictum explaining standard of care required of common carriers as "a very strict responsibility"). The Court limited *Lockwood* somewhat in Baltimore & Ohio Southwestern Railway Co. v. Voigt, 176 U.S. 498, 520 (1900) in which it concluded that express companies contracting to use the railroads' transportation services may agree to a railroad's limit of liability and include, as a consequence, a limit of liability to individual messenger-employees. The Court relied on the equal bargaining position of the railroad and the express company at a time when freedom of contract received exceptional support from the Court. *See id.* at 510.

137. 102 U.S. 451 (1880).

138. *Id.* at 453.

139. *Id.* at 455. The passenger purchased two tickets, one from Pullman and one from the Railroad, indicating the separate nature of the two companies' undertakings. *Id.* at 452-53. However, the Court noted that it was "not material that the sleeping-car in question was owned by the Pullman" company. *Id.* at 457.

140. *Id.* at 455.

141. *Id.* at 456. The Court further explained: "In performing that duty [to carry passengers], it could not, consistently with the law and the obligations arising out of the nature of its business, use cars or vehicles whose inadequacy or insufficiency, for safe conveyance, was discoverable upon the most careful and thorough examination." *Id.* at 457. The Court recognized, however, that the Railroad did not warrant the safety of its passengers. *Id.* at 456.

The Court could easily have concluded that the Railroad should *not* be responsible for the conduct of Pullman's conductors or for the operation of its cars. The Pullman Company, and not the Railroad, owned the car; Pullman hired the conductor and porter who had exclusive control over the car. In addition, Pullman was the exclusive ticketing agent for passengers in its cars, charging a fare in addition to the regular fare.[142] There was likely no real control by the railroad over the way Pullman operated its cars nor the way its conductors and porters were trained to inspect the cars and the passenger compartments for hazardous conditions.

In evaluating the cost and benefit of requiring the precautionary measure of an additional inspection of the berth, it would seem "reasonable" for the Railroad to defer any inspection of the passenger compartment to the persons who are most familiar with the Pullman cars—what could the Railroad's conductors add to the process? In fact, it appears unreasonable to require an additional inspection by the Railroad because it would cost both time and money and would delay the train and the conductors in the performance of their other duties with little or no added benefit to the safety of the passengers. Yet the Court concluded that there was indeed a reason to impose an inspection requirement on the Railroad—because it was the Railroad's ultimate responsibility to provide the safest means of transportation possible. If that meant providing additional inspection or oversight of the Pullman operation, so be it. The cost to the railroad is one which it should bear because of the special public nature of its undertaking. Cost effectiveness was not the primary consideration; recognition of the heightened responsibility and its fulfillment by the Railroad was of primary importance.[143]

Not only were common carriers held responsible for the highest level of care in their operation, including employees of other carriers, they were also held responsible for the equipment which they used and for the roadways upon which they travelled. In *Gleeson v. Virginia Midland Railroad Co.*,[144] the Court held a

142. *Id.* at 456-57.

143. In discussing the economic feasibility of the higher duty in common carrier relationships, Richard Posner has concluded that the higher duty is a reasonable one because it approximates the likely understanding of the parties to the relationship. Posner, *supra* note 4, at 38-39. This relationship entails terms and understandings quite like those which the relationship between product manufacturer and consumer entails as well.

144. 140 U.S. 435 (1891).

railroad responsible for a landslide along its right of way, thereby including within the railroad's high duty of care the proper construction and maintenance of the trains, cars, tracks and "all the subsidiary arrangements necessary to the safety of the passengers."[145] The Court reiterated its position that once the plaintiff shows an injury incurred while she was a passenger, the defendant is required to prove that "its whole duty was performed, and that the injury was unavoidable by human foresight."[146]

The vast majority of jurisdictions require common carriers to meet this "highest degree of care" in the transport of passengers.[147] The reasons given mirror those identified by the Supreme Court: that public policy requires carriers to exercise the highest degree of care where trusting members of the public submit themselves

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145. *Id.* at 443.

146. *Id.* In recent years, very few Supreme Court cases have dealt with carriers' high duty of care. In New York, New Haven & Hartford Railroad Co. v. Nothnagle, 346 U.S. 128 (1953), the Court confirmed the "utmost care in the rendering of a service of the highest importance to the community" owed by common carriers because of the unequal footing between individual and company. *Id.* at 135-36 (quoting Santa Fe, Prescott & Phoenix Ry. Co. v. Graut Bros. Constr. Co., 228 U.S. 177, 184-85 (1913)). The case disallowed a limitation on liability for lost baggage unless the passenger had been fully informed and allowed a fair opportunity to choose between higher and lower liability. *Id.* at 135. In Weade v. Dichmann, Wright & Pugh, Inc., 337 U.S. 801 (1949), the Court refused to require the highest level of care of a general shipping agent employed by the War Shipping Administration (WSA) in World War II. An employee of the WSA, a cook on a ferry operating between Norfolk, Virginia and Washington, D.C., assaulted a passenger. The defendant performed only shoreside duties such as issuing tickets and maintaining the vessel in service directed by the WSA and thus could not be considered a common carrier with the same responsibility to the passenger. *Id.* at 805. *See also* Cosmopolitan Shipping Co. v. McAllister, 337 U.S. 783 (1949) (same regarding agent's liability for reasonable care only); Sante Fe, Prescott & Phoenix Ry. Co. v. Grant Bros. Const. Co., 228 U.S. 177 (1913) (care owed to construction worker transported during building of railroad is not evaluated under highest degree of care because railroad company was not acting as common carrier at the time).

147. *See, e.g.*, *Harper*, 905 F.2d 71, 72 (5th Cir. 1990) (common carriers held to a "higher standard of care"); Arango v. Guzman Travel Advisors, 761 F.2d 1527, 1537 (11th Cir. 1985) (relying on Florida law finding a common carrier is held to a "high degree of care"); Duckworth v. Greyhound Lines, Inc., 469 F.2d 424, 426 (6th Cir. 1972) (relying on Tennessee law, finding carrier owed "highest" duty); Woolf v. Trans World Airlines Inc., 443 F.2d 841 (10th Cir. 1971) (relying on Oklahoma law); Sue v. Chicago Transit Auth., 279 F.2d 416 (7th Cir. 1960) (relying on Illinois law); Murphy v. City of New Orleans, 537 So.2d 1183 (La. Ct. App. 4th Cir. 1988); Hayne v. Union St. Ry. Co., 76 N.E. 219 (Mass. 1905); Benson v. Penn Central Transp. Co., 342 A.2d 393 (Pa. 1975); Parker v. City of San Francisco, 323 P.2d 108 (Cal. Dist. Ct. App. 1958).

to their control without effective choice[148] and that the carrier therefore must undertake to provide for the public's safety in all particulars which are under his direction and management.[149] In evaluating the public policy supporting a higher standard of care, the Court referred on several occasions to the passengers' lack of power to protect themselves from danger in the activity over which they have no control.[150] Because of that power inequity, the Court focused on the notion that the carrier is *responsible* for the well-being of its passengers because it has undertaken to provide them with a service which they are otherwise unable to obtain, and which entails a high degree of risk if performed carelessly in any way.[151]

The foregoing cases illustrate the many opinions from both state and federal courts dealing with the standard of care owed by carriers to their passengers.[152] These opinions reflect a recognition by the courts of the public duty of common carriers which compels the carriers to exercise a level of utmost caution not expected of the ordinary person.[153] Common carriers are not ob-

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148. *See* Suarez v. Trans World Airlines, 498 F.2d 612, 616 (6th Cir. 1974) (applying Illinois law).

149. *See* Kantonides v. KLM Royal Dutch Airlines, 802 F.Supp. 1203, 1209-12 (D.N.J. 1992) (surveys cases defining area of airline terminal over which airline has sufficient control to impose high duty of care); Stanford v. Kuwait Airlines Corp., 1990 U.S. Dist. LEXIS 16761 (S.D.N.Y. 1990) (association which promulgated security guidelines for member airlines held to highest degree of care to passengers because of considerable influence over member airlines in area of security).

150. Professor Henderson's recent effort to evaluate empirically the public policy justifications behind products liability opinions rests on the assumption that we are limited in our ability to define public policy to what a judge says it is in the context of an opinion. Henderson, *Judicial Reliance*, *supra* note 17, at 1573-75 (1991). Precedent is said to take priority over public policy in guiding the rule of decision, but public policy plays an important role in determining the reach and scope of precedent. *Id.* at 1573-74. See Pennsylvania Co. v. Roy, 102 U.S. at 455-56, for a discussion of public policy in common carrier liability.

151. *Gleeson*, 140 U.S. at 440-44.

152. See Kaczorowski, *supra* note 28, at 1128, 1157-69, for an excellent historical discussion of the high standard of care and its basis in a policy by judges to use "tort law to make people behave in morally appropriate ways by holding them to community standards of reasonable behavior in the circumstances in order to minimize injuries and losses, and to promote honesty and fairness in economic relationships."

153. *See, e.g.*, Derwort v. Loomer, 21 Conn. 244, 253 (1851) (high standard imposed because carrier "has, for the time being, committed to his trust the safety

ligated to insure the safety of passengers; they are, however, obligated to use the utmost care against possible danger.[154]

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and lives of people . . . who look to him for safety in their transportation.").

Even a judge as solicitous of railroads and industry as Chief Justice Lemuel Shaw of the Massachusetts Supreme Judicial Court recognized the special character of the undertaking by railroads to transport passengers safely. *See generally* LEONARD W. LEVY, THE LAW OF THE COMMONWEALTH AND CHIEF JUSTICE SHAW 140-41 (1957).

154. *See* LEVY, *supra* note 153, at 152:

> Thus, a railroad would be liable for passenger injuries if an accident happened because of its failure to provide roads, engines, or cars built with the highest skill that science and the experience of time would permit, or because of its failure to provide employees with the same skill. The passenger, however, took the risk of an accident which might occur in spite of the precaution that skill, care and experience could give.

Id.

Professor Kaczorowski discusses the impetus for the high standard:

> Passenger carriers were held to a standard of utmost care and were found liable for the slightest negligence. . . . As for judges, rather than lessening this high duty of extraordinary care with the advent of railroads, they more rigorously insisted that carriers do all that was humanly possible to avoid passenger injuries because of the significantly greater danger these machines presented to the safety of their passengers. The inherited moral principles and public policies underlying tort law served as insurmountable bastions against the attempts of passenger carriers to avoid the stringent liability that the common law imposed on them. Judges developed the rules of passenger carrier liability for injuries to passengers and applied these rules to dispense neutral justice, to promote public safety, and to enhance the care and diligence of passenger carriers in avoiding injuries.

Kaczorowski, *supra* note 28, at 1168-69.

Recent cases continue to acknowledge the unequal relationship of carrier and passenger and to require the carrier's high responsibility to its passengers, while also recognizing limits on that responsibility. For example, in Beard v. Norwegian Caribbean Lines, 900 F.2d 71 (6th Cir. 1990), plaintiff was a passenger on defendant's cruise ship and was injured while playing a game of basketball with other guests. Plaintiff claimed there was water on the deck on which he slipped. Other participants testified otherwise. *Id.* at 72. The trial court instructed the jury that the defendant owed its passengers a duty of reasonable care. The jury found for defendant and plaintiff appealed, arguing that the jury instruction should have explained that defendant owed a duty to exercise the "'greatest possible' or 'highest degree' of care." *Id.* The court of appeals, constrained to affirm the trial court because of the paucity of breach of due care evidence, concluded that the instruction was adequate because "[t]here is no sound reason to require that a carrier exercise a high degree of care for those trifling dangers which a passenger meets 'in the same way and to the same extent as he meets them daily in his home or in his office or on the street, and from which he easily and completely habitually protects himself.'" *Id.* at 73 (quoting Livingston v. Atlantic Coast Line R. Co., 28 F.2d 563, 566 (4th Cir. 1928)).

The court acknowledged the debate over the proper definition of a carrier's

Although defining a carrier's level of care as high or as the utmost humanly possible recognizes the inequity in power and control in the relationship, it will nevertheless lead to liability only in those cases of injury in which the power imbalance is implicated.[155] In those circumstances, the danger of injury is greatest precisely because of the inequity in control and knowledge. The policies that suggest liability place inherent limits on such responsibility as well.

The policy supporting the imposition of a high standard of care on common carriers, has not been, but should be focused upon in products liability cases because responsibility accompanies the duty inherent in a relationship of public trust.[156] In twentieth century society, the undertaking of product manufacturers is no less public in nature than that of common carriers. The connection between manufacturer and consumer may be more distant in space and time than that of common carrier and passenger, but that distinction is not meaningful given the nature of mass-product distribution and marketing. Consumers cannot know about the nature of a product's design and its possible faults when making purchases. Thus, having a choice between products is not a significant choice, regardless of differences in price. If the price actually reflects the level of quality, and hence the level of risk, how is the consumer to obtain that information out of the mass of information presented about the product, and others like it? Furthermore, comparisons would have to be made between prod-

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standard of care and concluded that the care owed is what is reasonable in the circumstances and that this level may be very high where the circumstances are "different from those encountered in daily life and involve more danger to a passenger. . . ." *Id.* at 74.

155. *See, e.g.*, Arango v. Guzman Travel Advisors, 761 F.2d 1527, 1537 (11th Cir. 1985) (Florida law; high duty does not extend to insuring travelers' successful travel ventures); Eastern Airlines, Inc. v. Silber, 324 F.2d 38 (5th Cir. 1963) (Florida law; passengers not warned of coming turbulence; jury verdict for plaintiff affirmed because high degree of care and foresight could require warning). Injured claimants owe a responsibility to themselves. It may be that the comparative fault systems which seek to take claimants' failure to meet that responsibility into account do not go far enough in assessing that failure. For a summary of comparative fault schemes, see HENDERSON & TWERSKI, *supra* note 124, at 316-19.

156. For a discussion of the general policies underlying products liability, see *supra* notes 26-38 and accompanying text. *See also* Henderson, *Judicial Reliance*, *supra* note 17, at 1575-80, 1589-90 (defining "public policy" that influences products liability decisions in terms of fairness and efficiency rationales, and concluding that fairness prevails over economic efficiency in empirical study of decisions relying on the different policies).

ucts of virtually identical make; different features would have to be evaluated to determine if they form the basis of the difference in price between two products.[157] Although the price may be a reflection, in some small part, of the risks of using the product, to expect consumers to make a reasoned evaluation of how safe a product is, compared to others very much like it, simply does not recognize the reality of the marketplace. It is safe to say, I think, that most consumers do not read reports on the quality or safety of the products they purchase because of the impulsive nature of many purchases. Even the knowledge obtained through such means is minimal at best compared with that of the manufacturer. Even for those purchases that are not impulsive, such as automobiles, major appliances and industrial equipment, absent meaningful risk information being available for comparison and comprehension, the price and the product literature or advertising will tell nothing about design aspects of the product.

The exclusive control the manufacturer has over the creation of the product and the trust the consumer is encouraged to place in the exercise of that control make a product manufacturer's undertaking no less public than that of a common carrier.[158] If

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157. In only very rare circumstances is it possible to conclude that different manufacturers' products are identical for purposes of imposing liability. The basis of market share liability in Sindell v. Abbott Laboratories, 607 P.2d 924 (Cal. 1980), was the fungible nature of DES; the many manufacturers of the drug had produced it from an identical formula. Industry-wide liability in Hall v. E.I. DuPont de Nemours & Co., Inc., 345 F. Supp. 353 (E.D.N.Y. 1972), was based on the fungible nature of blasting caps and the control of members in the industry over the level of safety and quality the manufacturers would produce. These two instances of product sameness are virtually the only times when combination for causation purposes has been approved. The Agent Orange litigation may fall in this category, but most commentators and Judge Weinstein would agree that the differences in the dioxin concentrations sold by the manufacturers make this comparison difficult at best. *See In re* "Agent Orange" Prod. Liab. Litigation, 597 F. Supp. 740, 819-33 (E.D.N.Y. 1984). Even most, if not all, asbestos manufacturers would vehemently protest the general categorization of "sameness" of all asbestos fibers and asbestos-containing products, particularly when it comes to the level of the risk involved for imposing liability. *See In re* Related Asbestos Cases, 543 F. Supp. 1152, 1158 (N.D. Cal. 1982).

It is irrational to expect consumers to be able to understand the risks inherent in a product, balance those risks against the utility of the product's individual design features, and then compare those findings to the next similar product. This is because disparity in knowledge between consumer and manufacturer is immense.

158. Early product liability cases relied in part on the public nature of the duty owed by one who manufactures a product for general sale and use. *See* MacPherson v. Buick Motor Co., 111 N.E. 1050, 1053-54 (N.Y. 1916); Foster v.

the defining features of the public undertaking aspect of the common carrier are their greater knowledge and control, the trust placed in them by the public, and the lack of meaningful consumer choice, these features are equally present in the relationship between product manufacturer and consumer in the case of product design.

2. Relationship Between Providers of Dangerous Services and the Public

In some jurisdictions[159] and in the *Restatement*[160] certain activities defined as "abnormally dangerous" or "ultrahazardous" carry strict liability for resulting injuries. This is due to both the extreme danger unique to the activity and the serious harm that may result in the event of an accident. Strict liability for products has often been analogized to such activities, particularly in the manufacturing defect case.[161] These types of activities, even when carried on extremely cautiously, lead to a certain number of accidents causing great injury. Similar to insurance, social policy supports the use of a pure loss allocation rule in these circumstances.

A great many dangerous activities are not held strictly liable, however, because they either do not rise to the level of "abnormally dangerous" or because the jurisdiction in which the activity takes place has chosen to evaluate liability based not on loss allocation policies exclusively, or even primarily, but on the conduct and

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Ford Motor Co., 246 P. 945 (Wash. 1926). The court in *Foster* defined the duty as follows:

> In cases like this, the liability of the manufacturer to third parties, where any liability exists, is put upon the ground that the manufacturer of certain articles intended for general use owes what may be called a public duty to every person using the articles to so construct them as that they will not be unsafe and dangerous, and for a breach of this duty the manufacturer, within the limitations we will point out, is liable in an action for tort—not contract—to third persons who are injured by his breach of duty.

Id. at 948 (quoting Olds Motors Works v. Shaffer, 140 S.W. 1047 (Ky. Ct. App. 1911)).

159. *See, e.g.*, Chavez v. Southern Pac. Transp. Co., 413 F. Supp. 1203 (E.D. Cal. 1976) (explosives); Siegler v. Kuhlman, 502 P.2d 1181 (Wash. 1972) (gasoline truck).

160. RESTATEMENT (SECOND) OF TORTS §§ 519, 520 (1965).

161. For a discussion of this analogy, see *supra* notes 99-116 and accompanying text. *See also* Wade, *Strict Tort Liability*, *supra* note 14, at 835-36.

responsibility of the actor whose actions are challenged.[162] This category includes many of the services the public has come to rely upon: electricity, natural gas, and petroleum.[163] Many jurisdictions impose the highest level of care on these service providers because of the public trust nature of the undertaking and the constant threat of danger in the absence of the utmost precautions.

An illustration of the analysis used to impose the highest degree of care on these activities is found in *Van Hoose v. Blueflame Gas, Inc.*[164] Plaintiff was injured in a water heater explosion. The heater was fueled by propane supplied by the defendant. Plaintiff claimed the defendant had not properly odorized the propane for leak detection.[165] Consequently, plaintiff's attempt to light the heater in the presence of an unknown leak led to an explosion. The jury found for the defendant. Plaintiff appealed, claiming that the jury instructions did not identify the standard of care owed by the defendant as that of the highest level.[166] The court of appeals reversed, concluding that the trial court had erred in refusing plaintiff's instruction.[167]

On appeal, the Supreme Court of Colorado affirmed the court of appeals and reiterated that "greater care may be required of one who dispenses a product in the stream of commerce when the product itself, by virtue of its inherent character, poses a high risk

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162. *See, e.g.*, Calderone v. St. Joseph Light & Power Co., 557 S.W.2d 658, 667 (Mo. App. 1977) (power company required "to exercise the highest degree of care to prevent injury reasonably foreseeable"); Goodpasture, Inc. v. Hosch, 568 S.W.2d 662, 665 (Tex. Civ. App. 1978) (owners of dangerous substances held to a duty of care proportionate to the danger involved). For a discussion of the difference between distributive justice and corrective justice, which inheres in the discussion of liability for abnormally dangerous activities, see Peter Benson, *The Basis of Corrective Justice and its Relation to Distributive Justice*, 77 IOWA L. REV. 515 (1992).

163. *See generally* 3 HARPER, JAMES & GRAY, *supra* note 28, § 16.13 n.14, at 503-504; PROSSER AND KEETON ON TORTS, *supra* note 25, § 34, at 208-209.

164. 642 P.2d 36 (Colo. Ct. App. 1982), *aff'd*, 679 P.2d 579 (Colo. 1983).

165. *Id.* at 37.

166. *Id.* at 38.

167. *Id.* The trial court rejected plaintiff's proffered instruction regarding the "exceptionally dangerous instrumentality" that carries with it "additional responsibilities commensurate with the degree of danger inherent in such instrumentality." *Id.* Instead, the trial court defined the duty owed only in terms of reasonable care. The court of appeals reversed the trial court and concluded that the trial court should have instructed on the higher standard of care required of one performing an "inherently dangerous activity" with a "dangerous substance" like propane. *Id.*

of injury to others."[168] An instruction based on the highest degree of care would remind the jury "that the inordinate risk posed by escaping propane requires an amount of care commensurate with the responsibility to the public owed by those choosing to engage in the activity."[169]

The court defined the care required as "the 'highest degree of care which skill and foresight can attain consistent with the practical conduct of its business under the known methods and the present state of the particular art.'"[170] By defining the highest care level in terms of the present ability and knowledge of the defendant, or that available to those in the business, the court prevented the defendant from becoming an insurer. The court acknowledged the greater responsibility owed to the public because of their inferior knowledge and ability to evaluate the risk or the quality of the activity. The trial court had erroneously minimized the defendant's obligation.[171]

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168. 679 P.2d 579, 588 (Colo. 1983). The court did not limit its holding to propane companies, but instead acknowledged that other products also fall in this category, including electricity, natural gas, butane, and ammonia fertilizer. *Id. Accord* Parkinson v. California Co., 255 F.2d 265 (10th Cir. 1958).

169. 679 P.2d. at 588-89. Further, the court concluded that compliance with an administrative safety regulation regarding the odorization process was not conclusive proof that the defendant was not negligent. *Id.* at 591.

170. *Id.* at 588 (quoting Denver Consol. Elec. Co. v. Simpson, 41 P.2d 499, 501 (1895)).

171. *Id. Accord* Wooten v. Louisiana Power & Light Co., 477 So.2d 1142 (La. Ct. App. 1985) (utility must exercise utmost care to reduce dangers as far as practicable and is required to protect against reasonably foreseeable situations); Herbst v. Northern States Power Co., 432 N.W.2d 463 (Minn. Ct. App. 1989) (natural gas company owes high degree of care due to greater hazard); Kimery v. Public Serv. Co. of Okla., 622 P.2d 1066 (Okla. 1980) (utility owes non-delegable duty to exercise high degree of care in building, operating and maintaining their property); Haskins v. Fairfield Elec. Coop., 321 S.E.2d 185 (S.C. Ct. App. 1984) (utility owes duty to exercise high degree of care, which means more than mechanical skill and includes foresight of reasonably probable consequences). *But see* Rosado v. Boston Gas Co., 542 N.E.2d 304, 309 (Mass. Ct. App. 1989) (plaintiffs died because of carbon monoxide leak in space heater about which defendant warned plaintiff; no liability even though "reasonably prudent care" may have required high standard of care in this situation).

The exercise of high care in these circumstances requires more than expert mechanical skill in the operation of the enterprise. *See, e.g., Haskins*, 321 S.E.2d 185 (S.C. Ct. App. 1984). The utmost care to reduce hazards is required to protect against foreseeable harms to which the public is exposed. *See, e.g., Wooten*, 477 So.2d 1142 (La. Ct. App. 1985); Jones v. Hittle Serv. Inc., 549 P.2d 1383 (Kan. 1976). This obligation is non-delegable and extends to the building, operating, and maintaining of the enterprise. *See, e.g., Kimery*, 622 P.2d 1066 (Okla. 1981); *see*

What characteristics does the relationship between the provider of a dangerous service and the public share with the relationship between the product manufacturer and the consumer? The provider of the dangerous service is in the better position to know the dangerous particulars of the activity's characteristics. Everyone knows electricity, for example, is a dangerous commodity. But the public is not in a position to understand the technical details of that service. Therefore, it relies on the knowledge and expertise of the provider to make the best decisions regarding the method and manner of its provision. Likewise, product manufacturers are exclusively in possession of the knowledge of risks attendant to the choices made throughout the design process. The consumer is unable to acquire or process that information and cannot make a truly informed decision nor take the precautions that may be available to reduce the risk. Without full information and the ability to synthesize it, some decisions are simply beyond the consumer's ability. But purchase of the product is likely, if not certain, in the case of electricity. Purchase of the product is certainly what the manufacturer intends, and by as much of the purchasing public as possible.

Further, the disparity in knowledge induces the public to trust, out of necessity, the provider of the dangerous service. Without knowledge to evaluate the choices the provider makes, the public is powerless to change its safety position. This relative powerlessness creates a relationship of trust with the provider of the dangerous service equal to that which exists between the passenger and the carrier. Courts require the more powerful, more knowledgeable party to exercise a higher degree of care for the other than if the parties were on an equal footing. The higher standard

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also City of Bridgeton v. B.P. Oil, Inc., 369 A.2d 49 (N.J. Super. Ct. Law Div. 1976) (strict liability imposed on storage of oil required because of substantial risks).

A number of cases recognize the higher responsibility of businesses which deal in dangerous services but focus on the risk in the circumstances and not on the relationship with the public. The commonly understood measure of duty is reasonable prudence and, according to these courts and the Restatement (Second), this relative standard may require a high standard of care. *See, e.g.*, Rosado v. Boston Gas Co., 542 N.E.2d 304 (Mass. Ct. App. 1989); Herbst v. Northern States Power Co., 432 N.W.2d 463 (Minn. Ct. App. 1989); Webb v. Wisconsin S. Gas Co., 134 N.W.2d 407 (Wisc. 1965). These courts fail to explicitly recognize the primary importance of the relationship. I submit that this approach fails to recognize the value of the relationship from which all other circumstances follow. Without the trust relationship, there are no circumstances to which a requirement of care attaches.

of care rests on the broad ground that persons dealing in hazardous services or goods that they represent as safe and sound, and benefitting from the purchase of the services or goods, are obligated to exercise supreme care for the public who has no say in the matter. The same can be said of product manufacturers and their consumers.

B. Defining the Duty to Exercise the Highest Level of Care in Product Design

Many commentators complain that a "high" standard of care is not a separate standard at all, but rather the standard of ordinary, reasonable care *in the circumstances*, which include the relationship between the parties and the danger inherent in the activity when reasonable care is not provided.[172] No more care can be given than due care.[173] This, of course, begs the question: What care is due? Defining the amount of care required in the circumstances is the business of the law. While in many instances the jury's traditional role of defining the conduct of the reasonable person in the circumstances and then measuring the defendant's conduct by that standard is appropriate and adequate, there are situations in which the jury's task must be further refined. This Article advocates recognizing the relationship between product manufacturer and consumer as one to which the law automatically attaches an elevated, extraordinary level of care.

In all circumstances, the nature of a relationship defines the care required in that relationship. When there is inequity in a

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172. *See* PROSSER AND KEETON ON TORTS, *supra* note 25, § 34, at 209 ("[I]t would appear that none of these cases should logically call for any departure from the usual formula. What is required is merely the conduct of the reasonable person of ordinary prudence under the circumstances, and the greater danger, or the greater responsibility, is merely one of the circumstances, demanding only an increased amount of care."). In Massey v. Scripter, 258 N.W.2d 44 (Mich. 1977) the court criticized the approach of varying degrees of care:

> One standard of care, that care which a reasonably prudent person would use under similar circumstances, is mandated in view of the medley of circumstances that may be presented to the trier of fact. While legal scholars and law school professors may use language intimating varying degrees of care, when charging a jury but a single standard of care is permissible.

Id. at 47. *Accord* Plagianos v. American Airlines, Inc., 912 F.2d 57, 59 (2d Cir. 1990) (relying on New York law).

173. *See* PROSSER AND KEETON ON TORTS, *supra* note 25, § 34, at 209; Griffith, *supra* note 132, at 882-84 (1989).

relationship, the law has not hesitated to impose a greater obligation on the more powerful party. This concept is neither novel nor complicated. When the nature of a relationship places one party in peril because of his trust in and reliance on the decisions of the other party, it would be a failing of the legal system not to recognize and enforce the heightened responsibility that inheres in the relationship.

The burden on manufacturers to behave with extraordinary care may seem onerous.[174] It means, among other things, routinely performing at the highest level of care which the defendant, and all his employees, is capable. Once the nature of liability for defective product design refocuses on the manufacturer's conduct, no manufacturer will want to be held to a level of extraordinary care in the design and engineering of that product. It might make the public, and jurors in particular, expect more from them than they want to deliver. It will require individual decision makers to accept responsibility for decisions made. This may require a change in the business culture that allows evading responsibility and hiding behind the mask of corporate identity.[175]

Yet when asked about the quality and safety characteristics of their products, manufacturers are not likely to respond eloquently about their ordinary or reasonable character. Products are much more likely to be described in glowing terms, such as "best in the business," "second to none," "state of the art," or "far superior to the competition." Manufacturers who assure consumers of such product characteristics should have no trouble meeting a high standard of care in the design of their products. So why should they protest? They will protest because of a claimed inefficient allocation of resources that will result from a standard of care that is anything other than "reasonable." If manufacturers are to make efficient judgments in product design and manufacture, predictable rules upon which they can rely must be in place.[176]

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174. *See, e.g.*, Eastern Air Lines, Inc. v. Silber, 324 F.2d 38, 41 (5th Cir. 1963) (airline unsuccessfully complained of repeated references in jury instruction to the high level of care owed by airline as common carrier, claiming prejudice).

175. For a discussion of this corporate culture of ignoring responsibility, see Bender, *supra* note 1, at 861.

176. Legal rules must necessarily have a certain level of predictability and certainty to affect the conduct which judges and legislators intend them to reach. Rules cannot be made too certain because of the variety of circumstances they must govern. Justice Oliver Wendell Holmes discovered this after his attempt to define for all time the "stop, look and listen" rule of reasonable conduct in railroad crossing cases. *See* Baltimore & Ohio R.R. Co. v. Goodman, 275 U.S. 66

Legal commentators will likely raise the same complaint about the high standard of conduct I propose.

I have three responses to complaints that a high standard of care will lead to a misallocation of resources. The first is, so what? Legal economic analysts do not purport to value the efficient allocation of resources over all other legal goals. Instead, they identify economic efficiency analysis as a guide to judicial and governmental action—not as an end in itself.[177] This Article places a value on the acceptance of responsibility by those who are in power in relationships of trust and reliance and defines that value by requiring the utmost care for the obligation entered into. The policies underlying the decisions relied on for this proposition assume such a value—I am not inventing them.[178]

Second, recognizing that maximization of resources is also an important value, the proposed high standard of care simply attempts to accommodate the value of responsibility, which has not heretofore been valued sufficiently. To do so, the proposed high standard of care affects the way in which manufacturers evaluate the elements of the Learned Hand negligence calculus. In determining P, the probability of the harm, and L, the gravity of the harm, manufacturers are required to consider the specific nature of the person who will probably be gravely harmed in the absence

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(1927) (rule defined); Pokora v. Wabash Ry. Co., 292 U.S. 98 (1934) (rule limited).

In addition, manufacturers would likely not want too certain a rule because it would not provide the flexibility required in the everyday conduct of their businesses. Furthermore, a certain rule would lead to more certain liability in cases to which it applied. For a discussion of the process of fault determination and its effect on the economic incentives created by the nominal fault standard, see Jason S. Johnston, *Bayesian Fact-Finding and Efficiency: Toward an Economic Theory of Liability Under Uncertainty*, 61 S. CAL. L. REV. 137 (1987). The author concludes that errors are inevitable when the fact-finder must determine fault from the limited and imperfectly informative evidence presented at trial. Therefore, the message sent by legal rules is uncertain, by definition. Sophisticated actors, including products manufacturers, respond not to what the law says they should do, but to how much evidence the law says is enough to escape punishment for what the law says they should not do. This conclusion supports my proposition that the standard of care should be raised—even if only to lower the level of evidence required to obtain redress.

177. *See* POSNER, *supra* note 17, at 27 ("[T]here is more to justice than economics. . . ."); *see also* Barbara A. White, *Risk-Utility Analysis and the Learned Hand Formula: A Hand That Helps or a Hand that Hides?*, 32 ARIZ. L. REV. 77, 83-87 (1990) (discussing the necessity of recognizing that economic analysis is not intended to make value choices but merely to provide a reasoning process to bring stated priorities to a maximum).

178. *See supra* notes 125-171 and accompanying text.

of foregone additional precautions, B. The character of the relationship which is created and which leads to the manufacturer's choice becomes a multiplier of "PL" to increase its value. Hence, in design decisions, the manufacturer should determine whether B < (PL) R, where R is responsibility to the relationship.

Third, the high standard of care proposed is really only an alternative to strict liability, which, in its current manifestations, is not at all efficient due to the variety of ways in which design defects are determined.[179] Most of those methods barely promote efficiency and fairness. In lieu of that hodgepodge of liability rules, a high standard of care, which allows an evaluation of the manufacturer's conduct at the time the decisions were made, is much more likely to lead to a determination that the manufacturer's decision was efficient and that it allocated resources properly. Further, one of the reasons behind imposing strict liability for manufacturing defects was its potential to achieve an efficient level of resource allocation to product quality and safety because plaintiffs would not have to prove negligence and manufacturers would thus not escape liability for inefficient resource allocation. A high standard of care will also affect plaintiffs' burden of proving reasonable care because the assumption of a high standard of care reduces the likelihood of a directed verdict and enables juries to evaluate the elements of defendants' decision-making more fairly than does strict liability.

If a return to negligence liability for design defects occurs, as is advocated by this Article and other commentators,[180] focusing on reasonable care in the circumstances does not go far enough to define the special nature of a manufacturer's duty. The facade of consistent quality and superiority which is created by product manufacturers invites the responsibility to conform reality with the image created. If the image is misunderstood and the public is confused about what product quality means, product manufacturers should be required to correct the image or to make a product that conforms with it. Just as "[d]anger invites rescue,"[181] the trust induced by product representation invites the responsibility to comply. If manufacturers have accomplished the most they can, the law should reward this level of achievement. If they fail in that attempt, their feet should be held to the fire.

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179. *See supra* notes 60-116 and accompanying text.

180. *See generally* ALI REPORTERS' STUDY, *supra* note 6, Vol. II, at 16, 52-57; Henderson and Twerski, *Stargazing*, *supra* note 5, at 1334.

181. Wagner v. International Ry., 133 N.E. 437 (N.Y. 1921).

So the question becomes, what is the difference between the "highest degree of care" and "ordinary care in the circumstances?" In manufacturing flaw cases, once a production standard is set and the product fails to meet it, the law only need determine whether the standard has been met—whether the product is as intended. In manufacturing flaw cases, the standard is not evaluated because it is presumed to require a non-flawed product, i.e., the reasonableness of conduct in setting the standard is not an issue.

When the standard is met, however, and the design and product are as intended, if injury results the liability inquiry must examine the standard: how was it set, why was it set, what alternatives were considered. By what, then, is the standard judged? This is the question this Article seeks to answer by requiring a high standard of care. The standard-setting process must neither ignore positive long-term decisions and achievements made nor permit manufacturers to abdicate responsibility for short-sighted decisions. The reasonable, prudent manufacturer may be inclined to value short term benefits over long term ones, as well as to undervalue the circumstances of the trûsting consumer to whom the product is directed. Unlike manufacturing defect cases, which presume the wisdom of the standard, the design defect cases directly challenge the wisdom of the standard. The wisdom of choices made and the process by which they were made are ignored if the focus is on "risks vs. utility" alone.

Unlike a standard of reasonable, ordinary care, a high standard of care and responsibility necessarily delves into the design standard the manufacturer has set and further requires that, in setting the standard, the manufacturer acknowledge the primacy of the public relationship. The higher standard re-defines product design responsibility. The balancing of burdens and benefits required in negligence analysis will not be enough; the manufacturer's decision-making must consider the peculiar position of the trusting consuming public.[182] If a manufacturer has consciously decided to design a product with a certain level of risk, his evaluation should be subjected to the same level of scrutiny as that of other similarly situated parties who create risks for other members of trust relationships.

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182. The RESTATEMENT (SECOND) OF TORTS, § 283, cmt. f (1965), provides support for this position: "Where a defendant's negligence is to be determined, the 'reasonable [person]' is a [person] who is reasonably 'considerate' of the safety of others and does not look primarily to his own advantage."

Liability should be imposed for an allegedly defective product design if the manufacturer conducted himself during the design process in a way that does not adequately address the interplay between (1) the manufacturer's superior knowledge and ability to alleviate risks and (2) the customer's trust in the superiority and quality of the product as a result of the manufacturer's greater knowledge and control over the process. To relegate the nature of the relationship to "one of the circumstances" trivializes the importance of the relationship's role in creating the manufacturer's duty.

C. Examples of the Highest Level of Care in Application

How should this standard be framed such that it will be meaningful to a jury or to a judge deciding motions on the merits? Cases in which this standard is used define the care owed as "the highest standard of precaution and diligence that human care and foresight can obtain" or "the utmost caution characteristic of very prudent [persons]." This Article proposes a standard defined by language similar to the following proposed jury instruction:

> The law holds the manufacturer of a product to the highest standard of care which skill and foresight can obtain in all aspects of the planning, design, processing, production and manufacture of that product. This means that in designing a product or one of its features or components, a manufacturer must exercise the utmost caution and diligence in making decisions and evaluating options regarding that product's features, while exercising the superior knowledge, skill and ability of an expert in that field.
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> You must consider each of the manufacturer's decisions in the design process which have been challenged by the plaintiff and evaluate them based on the manufacturer's responsibility to exercise the highest degree of care for the safety of the plaintiff as a member of the consuming public who trusts in and relies on the manufacturer's superior knowledge and skill. This means that the manufacturer must have made its design decisions in consideration of and with respect for the public trust placed in him in making those decisions.
>
> Manufacturers are not insurers of their product's safety and are not expected to design perfect products; they must, however, make design decisions based on their responsibility to the consuming public to design a product using the

utmost caution and foresight. This is what the highest level of care requires.

In assessing the manufacturer's design decisions, you may consider the following factors [if presented by the evidence]:

(1) the reasons given by the plaintiff explaining that the manufacturer did not exercise the extreme caution required in making the design decision(s) in question;

(2) the alternative decisions proposed by the plaintiff that the manufacturer should have made and that were available to the manufacturer, or those the manufacturer reasonably should have known about or discovered, given its status as an expert in the field;

(3) the reasons given by the manufacturer explaining why he did not make the alternative decision(s) and incorporate it(them) into the design; and

(4) the effect on the product, its usefulness, quality and safety, if the alternative design decision(s) had been made instead of the design(s) that was(were) used.

By evaluating the reasons that support the manufacturer's chosen and alternative designs, his behavior becomes paramount. Whether those reasons support the conclusion that the responsibility has been fulfilled will be a jury question in most instances. Manufacturers include a variety of items in their decision-making process. Sometimes the risk of the design gets evaluated and sometimes it does not. If it so happens that the design decision resulted in foreseeable and excessive risk, the manufacturer should be required to explain why that risk was not adequately considered in its design process. Superimposed on each of these decisions should be, however, the ultimate decision-making factor of responsibility to the public that implicitly and involuntarily trusts in all design decisions.

Critics of this proposed high standard of care will likely claim that it does not provide sufficient certainty or predictability to inform product manufacturers of what is required of them. Such criticisms also have been made of the strict liability standard for design defects.[183] In theory, however, strict liability provides the

183. For a discussion of one author's perception that there is a need for a structured no-duty analysis in products liability to enhance directed verdict practice, see Twerski, *Seizing the Middle Ground*, *supra* note 5, at 527-34. For an economic

ultimate in predictability because liability is imposed once a defect is identified without regard to unpredictable evaluations of manufacturers' conduct. Yet, strict liability is criticized loudly by most manufacturers. It seems to me that the least predictable standard is the reasonable person standard, because it is founded on some hypothetical figure who, because of vastly changing societal norms, no longer takes on the homogenous characteristics he once did. This standard is the one most manufacturers would advocate. Curious.

In any event, I am not persuaded by the argument that standards must necessarily be overly precise and predictable to be worthwhile.[184] The standard of the reasonable person invites uncertainty in legal decision-making. The only certainty originally associated with the reasonable person standard was that there would be less liability, rather than more, because historically tort liability had a no-fault character.[185] If predictability is a concern, however, a higher standard of care in design defect is *more* certain and *more* predictable than either the negligence standard or the variety of strict liability rules currently applied. The higher standard allows consideration of any economic factors included in the manufacturer's decision-making process. More importantly, the standard raises the level of that decision-making inquiry to a higher plane by asking at each stage in that process the question: "Was this decision in keeping with the responsibility of this defendant to respect the trust the public places in his superior knowledge, expertise and ability?" Liability is not more certain to be imposed under this standard than under strict liability standards, but the conduct required of manufacturers is more predictable.

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evaluation of the desirability of precise legal rules, see John Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257, 264-71 (1974). Certainly the possibility exists that imprecise liability rules will lead to greater caution in product design and manufacture, thus discouraging innovation to some degree. However, it should be possible to encourage innovation while maintaining product quality.

184. *See supra* note 176 and accompanying text.

The duty analysis, defining the level of care required, ultimately rests on policy issues and economic, moral and social factors which are not capable of precise definition by rule-makers. For a discussion of the need to focus directly on policy issues in tort decisions, see Leon Green, *Duties, Risks, Causation Doctrines*, 41 TEX. L. REV. 42, 45-47 (1962). An excellent exposition of this character of tort law is found in Peter H. Schuck, *The Context of the Controversy*, in TORT LAW AND THE PUBLIC INTEREST 18 (Peter H. Schuck, ed. 1991).

185. For a discussion of the historical origins of tort law, see *supra* note 28. *See also* LAWRENCE M. FRIEDMAN, A HISTORY OF AMERICAN LAW, 467-71 (2d ed. 1985); MORTON J. HORWITZ, THE TRANSFORMATION OF AMERICAN LAW, 85-89, 1780-1860 (1977).

C. *Application of The High Standard of Care*

Several examples illustrate how the highest level of care may be applied in actual cases involving design defect liability.

1. Lack of a Safety Device

One of the earliest cases recognizing strict liability for a design defect involved the allegation that an additional safety device should have been incorporated into a piece of heavy equipment, a paydozer, used in the course of employment.[186] Because many design defect cases involve allegations of needed safety devices, this case will provide an excellent backdrop to apply the high standard of care proposed.

The decedent, a worker at a dam site, was killed by a paydozer operated by a co-worker. Plaintiff claimed the paydozer was defective in two respects: (1) it lacked a rear-view mirror to enable the operator to see objects in his blindspot; and (2) it was not equipped with special bells to warn other workers when the paydozer was operating in reverse.[187] The paydozer was purchased by the employer without the safety devices; the employer could alter the product to fit his particular use if needed and so could have added these safety devices.

Plaintiff's burden is to overcome the notion that the employer was the true responsible party, usually immune from his negligence under worker's compensation statutes. The manufacturer generally argues that the employer can choose to purchase the product with additional safety features and that adding them will unnecessarily increase the cost for those purchasers-employers who do not desire the features.

Under a strict liability standard evaluating the risk of the product against its utility in the designed condition, plaintiff need only prove that the product's risks outweighed its benefits as designed and that an alternative design was feasible. Clearly, the addition of mirrors and some noise-making device is feasible, and not likely to be very costly. Even in those jurisdictions requiring that the proposed alternative design be practical and thus cost-effective, it is likely that the absence of such a safety feature would render the product defective.

Under a high care standard as described above, a manufacturer will have more success in advancing the theory that its decision to

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186. Pike v. Frank G. Hough Co., 467 P.2d 229 (Cal. 1970).
187. *Id.* at 231-32.

forego a particular safety device complied with the high standard of care. This will perhaps not be true in the case of a rear-view mirror or a warning device, both of which are now commonplace and reasonably expected as standard, even on heavy industrial equipment, but will likely be true in the case of a more exhaustive safety device which could reduce the effectiveness of the product, such as a roll-over protection system (ROPS). In such a case, the manufacturer would focus on its evaluation and rejection of the proposed feature. If the proposed feature was not even considered, it is not likely that the manufacturer complied with its responsibility to exercise the utmost caution in product design. If it was considered, the jury is entitled to know why it was rejected and whether the manufacturer properly considered the high level of diligence and precaution expected. The business' rationale for its design decision should be considered. If, for example, the added safety feature was rejected solely because it would add marginally to the price of the product and the product might therefore be too expensive for a small percentage of the manufacturer's market, the jury is entitled to conclude that the manufacturer should absorb some of the cost of that added feature, raise the product's price by a smaller percentage of the increase in its cost and market the product with the safety feature. Responsibility is not cheap. This expense is apt to be less, however, than that imposed by a strict liability system where the manufacturer's acceptance of responsibility and its efforts to comply with it are not important.

Furthermore, under the proposed standard the manufacturer is able to raise as a factor in its decision-making process the employer's responsibility to safeguard his employees. This factor is not generally in issue in strict liability cases unless the employer's conduct rises to the level of a superseding cause that prevents the defective condition from being the proximate cause of the injury.[188] If the focus is on the manufacturer's conduct, manufacturers would be able to explain the effects of the applicability of other safety devices available to the employer, the efforts used to encourage purchase of the product with the safety device, the frequency with which such safety features are purchased, and the cost on their design decision. Manufacturers may have a difficult road when it comes to arguing that a certain safety feature was not part of

188. The complicated question of who bears responsibility for workplace injuries in a system with worker's compensation immunity is beyond the scope of this Article. *See generally* Richard A. Epstein, *The Historical Origins and Economic Structure of Workers' Compensation Law*, 16 GA. L. REV. 775 (1982).

their responsibility. But at least the focus will be the depth of the manufacturer's analysis of the problem—not just the stark character of the product.

2. Internal Component Part Design

Design defect allegations often point to a failure of some internal mechanism over which the manufacturer has had exclusive control. These purely internal design choices are the most difficult for courts and juries to evaluate. To impose liability on these decisions necessarily requires second-guessing the manufacturer's research, development and engineering professionals and perhaps those of an entire industry. Many commentators believe that neither courts nor juries are capable of this task.[189] The technical nature of the decision does not easily lend itself to a thorough evaluation of its correctness within the time it takes a court and jury to decide a case.

Yet leaving the decision wholly to the manufacturer or the industry to which it belongs, or even to governmental standard-setters, without oversight by some external system, is fraught with problems of potential abuse by industry groups, individual manufacturers, regulators, and overzealous consumer advocates.[190] A liability system that focuses upon the product manufacturers'

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189. *See, e.g.*, HUBER, *supra* note 5, at 41-44; Henderson, *Manufacturers' Design Choices*, *supra* note 14, at 1572-73.

190. The ALI REPORTERS' STUDY identifies the influence of powerful groups as a serious problem weighing in favor of a system of standard-setting that is not linked to the standards set by government agencies or other industry-related groups and organizations.

> [W]e should not overestimate the actual influence of administrative expertise on the judgment whether to adopt or how to define the content of standards. In the real world of administrative politics, such standards inevitably bear the imprint of continual tugging and hauling between the affected interest groups, regulated firms, and representatives of potential victims. . . . Whatever may be the shortcomings of jurors' understanding of complex technical issues, one major comparative advantage of the starkly decentralized tort litigation system is that it involves no single body that is susceptible to being "captured."

ALI REPORTERS STUDY, *supra* note 6, Vol. I, at 49. The Study concludes that even though there are apparent advantages of the regulatory system for standard-setting, the actual impact on curbing injury-causing events has been much less than that provided by liability systems, including worker's compensation or no-fault automobile insurance systems. *Id.* at 47-48. *But see* Henderson, *Manufacturers' Design Choices*, *supra* note 14, at 1573-77 (advocating governmental regulation for design standard setting).

responsibility takes the regulatory scheme into account in evaluating the exercise of that responsibility, but goes beyond such standards to evaluate whether compliance with those regulations was sufficient to protect the trust relationship to which the manufacturer is obligated. It is certainly possible that the regulations and standards were formulated on an agenda not holding the manufacturer's relationship with the public as a top priority.

If the relationship is not properly prioritized, and there is evidence of the insufficiency of the regulation or standard, the manufacturer may still have complied with his responsibility under the analysis proposed. The manufacturer who has recognized the importance of the trust relationship with the public is rewarded for conduct which exceeds the minimum required by regulations or standards when that conduct suffices to meet the high standard of diligence. If a manufacturer relies on a standard or regulation for his compliance with the high care standard, he should already have evaluated that decision in light of his responsibility to the public. This way, the tort liability system becomes a partner *ex ante* with industry and government in influencing design decisions, and not an adversary.

For example, airplane manufacturers were hard hit by liability in the 1980s. Although the airplane manufacturing industry is heavily regulated, there is evidence that the Federal Aviation Administration (FAA) is ineffective and closely aligned with the industry.[191] The extraordinarily complex nature of this industry and the detailed regulations with which it must comply do not at first blush seem to lend themselves to judicial second-guessing. For purposes of this discussion, let us assume the defect is the choice of engine design; the decision to use a carburetor rather than a fuel injection system. There is evidence that the carburetor engine does not adequately alleviate the problem of "icing up" in flight, that no heater attachment is included, and that there is no gauge to identify when ice is becoming a problem. The fuel injection engine does not have these problems but at the time of design the carburetor engine was extremely popular and met FAA standards. This problem was presented in *Wilson v. Piper Aircraft Corp.*[192]

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191. *See* VISCUSI, *supra* note 5, at 119-20. For a discussion of the effect of regulatory schemes on deterring conduct and insuring compliance, see *id.* at 118-124. *See generally* Susan Rose-Ackerman, *Tort Law in the Regulatory State, in* TORT LAW AND THE PUBLIC INTEREST 80-102 (Peter H. Schuck, ed. 1992).

192. 577 P.2d 1322 (Or. 1978).

Both plaintiff and defendant will present expert testimony to debate the efficacy and efficiency of the challenged design. The proposed alternative will be dissected. The regulation upon which the defendant relied will be chastised by the plaintiff and glorified by the defendant. With a design feature as technical as an airplane's fuel distribution system which has already been approved by the government, a risk-utility analysis will focus on the efficiency and cost-effect of altering the design, as well as the design's operating efficiency and over-all safety compared with the incremental safety benefit to be derived. In *Wilson*, the jury found for the plaintiff. However, the appellate court reversed the judge's denial of a directed verdict, finding the evidence of defective design insufficient to go to the jury primarily because of the lack of evidence on the proposed alternative design's economic effect on the defendant.[193]

The proposed high standard of care will require an analysis of the defendant's responsibility to the public to exercise the utmost caution when making his choices. Each design choice will require the jury to consider whether the defendant adequately considered that responsibility. The popularity of the challenged engine model is insignificant unless it pertains to some other reason why the fuel injected model was not chosen; product design is not a popularity contest. At each design stage, the question must be asked, "Will this decision reflect our responsibility to the public to protect and respect their trust?" This inquiry will not require each decision to be made differently, but it might. What will be added by the proposed standard is the forced recognition and respect by manufacturers of the trust placed in them by the consuming public. If the airplane manufacturer was slow to incorporate the fuel injection engine because he sold so many of the popular carburetor type that he decided to ease into the market the more expensive, but safer, fuel injection engine, he should have to explain that rationale to the jury.

The public has no conceivable way of processing the information airplane manufacturers assess in their design decisions and

193. *Id.* at 1325-26. The court indicated that the plaintiff should have presented more evidence on the cost effectiveness of the fuel injected engine, even though there was proof that the engine had been used successfully in later models. *Id.* at 1327. The court commented on the popularity of the carburetor engine design and seemed hesitant to declare a fundamental design feature defective without evidence of the burden on the consuming public of such an action. *Id.*

have at their disposal.[194] Airplane technology has changed rapidly over the last century; airplane manufacturers are the repository of that technology. The concentration of expertise and knowledge in the airplane manufacturing industry is staggering. The motivations behind design decisions may be complex, but unless the responsibility to the consuming public plays a role equal to the economic bottom line, the manufacturer will have failed in his trust obligation. Plaintiff's burden in this area may seem heavy but in most jurisdictions, *Wilson* notwithstanding, a higher standard of care also brings with it an eased evidentiary burden on plaintiffs.[195] While the concentration of technology in other industries may not be as great, the level of expertise and knowledge in all other industries is certainly greater than that possessed by members of the general public.

When an industry controls the available knowledge, there is a great need to recognize the trust relationship implicit between the holders of that knowledge and those who rely on its responsible use. There is also an increased need for an additional oversight mechanism to insure that the industry does not become complacent.[196]

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194. It is argued that, at least with respect to general aviation aircraft, purchasers are very sophisticated and knowledgeable and should be allowed to decide how much safety they want. *Compare* Andrew Craig, *Product Liability and Safety in General Aviation*, *in* THE LIABILITY MAZE (Peter W. Huber & Robert E. Litan, eds. 1991) *with* Robert Martin, *General Aviation Manufacturing: An Industry Under Siege*, *in* THE LIABILITY MAZE, *supra*. This factor, if accurate, would affect the responsibility owed but should be presented to the jury as part of the design decision-making process.

195. *See supra* notes 126-151 and accompanying text for the eased burden on injured plaintiffs in cases involving common carriers. For a discussion of the wisdom of shifting the burden of proof to defendants in design defect cases, see *supra* note 132.

196. The lesson was learned early on—and repeatedly—that compliance with an industry standard, custom or government regulation is not conclusive evidence of due care because of the potential for such "rules" to be set too low by those who are to comply with them. *See* The T.J. Hooper, 60 F.2d 737, 740 (2d Cir.), *cert. denied*, 287 U.S. 662 (1932) ("[A] whole calling may have unduly lagged in the adoption of new and available devices. It never may set its own tests, however persuasive be its usages."); Helling v. Carey, 519 P.2d 981 (Wash. 1974) (ophthalmologists required to give glaucoma tests to comply with due care despite professional standard to the contrary). Only medical practitioners are allowed to set their own standard of care because of their professional status and a variety of other policy reasons fully discussed in Mark F. Grady, *Why are People Negligent? Technology, Nondurable Precautions, and the Medical Malpractice Explosion*, 82 NW. U. L. REV. 293 (1988); and Alan H. McCoid, *The Care Required of Medical Practitioners*, 12 VAND. L. REV. 549 (1959).

Would *Wilson* have been decided differently under the proposed standard? If the focus had been on the manufacturer's conduct and its reasons for choosing not to change the design, the jury would at least have had an opportunity to evaluate the motivation for the choices made in light of the expertise and state of technology existing at the time they were made. Changes in design are made over many years of evaluating alternatives. The jury could have concluded that the manufacturer failed to fulfill its responsibility to exercise the highest care by failing to change the design of the engine when it became evident that the design's evolution had reached the point at which to set a new standard and give up the old, then popular, design. It is also possible that the evidence indicated that the fuel injection system was not yet at a stage in its development where its accommodation warranted a wholesale change in the aircraft's design. Technology's constant evolution can be discouraged by a standard that fails to recognize the motivation for choices made during that process. If a manufacturer is motivated, in part, by his responsibility to the public, his choices should be given the chance to survive the scrutiny of the liability system. If a manufacturer does not respect the public trust, he should be held accountable even if his choices purportedly survive a cost-benefit analysis.[197]

CONCLUSION

Although the changes in products liability in the last three to four decades have provided injured plaintiffs with greater access to the justice system by removing former formalistic barriers to such access,[198] these changes have come under significant criticism in the last decade. The real criticism appears directed toward

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197. Because corporate managers and decisionmakers, in their quest for an efficient current bottom line, do not adequately address long-term risks, they are not likely to invest in safety innovations when there is no present economic benefit. *See* Richard J. Pierce, Jr., *Encouraging Safety: The Limits of Tort Law and Government Regulation*, 33 VAND. L. REV. 1281, 1301 (1980).

This Article does not address liability for unavoidably unsafe products. These products are inherently unsafe but cannot be made safer or differently and still perform their desired function. Unavoidably unsafe products primarily include pharmaceuticals, alcoholic beverages, and, perhaps, cigarettes. Section 402A, *supra* note 3, at cmt. k. Such products are arguably defective in design, but the choice to which liability attaches is not the design choice but the marketing choice. See O'Brien v. Muskin Corp., 463 A.2d 298 (N.J. 1983), for a case that represents the high-water mark, so to speak, in imposing liability for an entire product line, above-ground swimming pools, that could not be made differently. *See also* Henderson and Twerski, *Rejection of Liability Without Defect*, *supra* note 14.

198. *See supra* notes 39-59 and accompanying text.

design defect litigation and courts' attempts to second-guess the decisions of product manufacturers—in all design particulars—when courts and juries have no expertise in these areas. This criticism results, in part, from courts' attempts to be true to strict liability and to focus on the product exclusively in imposing liability instead of evaluating the basis of the manufacturer's design decisions.[199] The manufacturer's conduct in its design choice is the appropriate inquiry and this Article argues that the nature of that focus should be on whether the manufacturer fulfilled his responsibility to respect the trust and confidence induced in the quality of products by the consuming public. To do this, the highest level of care is required.

This focus on responsibility acknowledges the world in which products are made: one in which product manufacturers hold themselves out as producing a superior product. Further, the special trust nature of the relationship between consumer and products manufacturer has all the characteristics of other relationships to which the law has attached the highest level of care. Tort liability seeks to promote a variety of goals: achieving fairness, correcting injustice between parties, encouraging efficient behavior, and distributing risks according to a societally acceptable scheme. This Article advocates recognizing an additional "sub-goal" to each of these goals in products liability—the recognition of responsibility for the product-related well-being of the consuming public.

The responsibility stemming from the trust relationship with the consumer requires a perspective which elevates the place of the consumer in the decision-making process and requires a critical look at the reasons behind the manufacturer's design decisions. This responsibility perspective requires a normative determination of whether the manufacturer's decisions were responsive to the needs of the consuming public, and whether the manufacturer placed those needs appropriately with his other constituencies.

What real effect will this high standard of responsibility have? The effect will differ based on a manufacturer's attitudes. Some manufacturers will rejoice at the thought of a return to negligence liability with its focus on reasonable care because they will expect it to lead to less liability than is incurred under strict liability, even under a high standard of care. That is a false assumption. These manufacturers might change their behavior, not by changing

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199. *See* Wade, *Strict Tort Liability*, *supra* note 14, 836-37 (Dean Wade acknowledges that his risk-utility analysis for evaluating design defects is basically a negligence calculus); *see also supra* notes 73-84 and accompanying text.

design decisions, but by adjusting their insurance coverage. Profit will remain the overriding conduct-regulating factor in decision-making. No system of liability directly affects this category of manufacturers' conduct. A high standard of care focusing on their responsibility to consumers likely will not either. Manufacturers will, however, suffer increased liability over both pure negligence and most strict liability schemes. Once courts and juries focus on the height of manufacturer responsibility, the door is open to a review of decision-making *rationales* and *motives*. Such a review will quickly lead to jury dissatisfaction with a perceived lack of respect for responsibility. I suspect there is a healthy minority of manufacturers in this category who will play liability roulette under any system, including the one proposed. But focusing on responsibility will make that game less appealing.

By far the larger number of manufacturers will take their responsibility seriously, however. Given the opportunity to escape the perceived unfairness of strict liability, these manufacturers should welcome the chance to have their decision-making evaluated. As I have said earlier, in my experience most manufacturers take their responsibility to product quality seriously. They may need some encouragement to take their responsibility to the *consumer* seriously, however, and the high standard of care proposed in this Article provides that encouragement. The two responsibilities are not equal. A manufacturer can balance the risks and utility of a product design's quality without ever considering the effect of those decisions on the trust relationship with the ultimate user of that product. Requiring manufacturers to consider that relationship will affect many of the decisions made about the product—when to incorporate certain innovative features, what material changes to make given the advances in available choices, whether to change a production schedule to accommodate a needed design change or to wait until the next model to make that change. These decisions on the margin are more likely to be made differently under a high standard of care that reflects responsibility for the trust of the consuming public. These decisions will make products safer without adversely affecting the efficiency of the manufacturer's overall operation. Manufacturers who respect their obligations will make these changes and will thus be affected by the high standard of responsibility.

This Article has surveyed the goals behind product liability law and has evaluated the current methods of imposing design defect liability to determine if those goals are being met. Having concluded that the goals and methods are out of sync, Part IV of the

Article explored other relationships with characteristics common to that of manufacturer and consumer to illuminate how the goals and methods of product liability can be synchronized. The Article concludes that the relationships most similar to manufacturer-consumer are those in which a high standard of care is imposed on the party with greater knowledge, influence and power and in whom the other party trusts and places confidence. Such a high standard of care is advocated for judging manufacturer product design conduct.

The standard of utmost caution and diligence which this Article proposes comports in large measure with what manufacturers already purport to achieve. The standard encourages manufacturers to accept responsibility for their decisions and to plan accordingly. The tort liability system should encourage product manufacturers to take a higher level of responsibility in the design choices they make. As revision of the current rules governing product liability begins, an evaluation of the manufacturers' commitment to responsibility needs to be considered. Neither strict liability nor ordinary negligence liability fulfills the goal of respecting the relationship to which product manufacturers are ultimately responsible. Requiring the highest level of conduct advocated by this Article will appropriately balance the needs of that relationship with the capabilities of manufacturers in an evolving technological world.